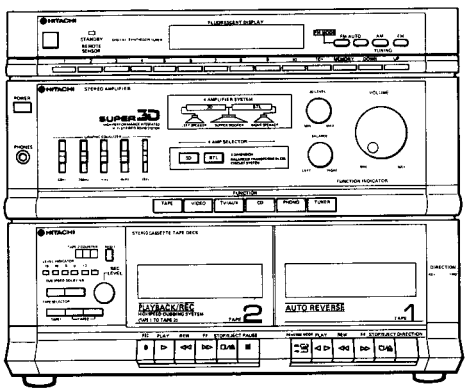
HITACHI
SERVICE MANUAL

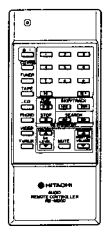
TY | No. 593 EGF

HRD-MD50
[CS, BS, KS, ES, VS, ZS, SA, EW]

TN-521ZSW-153 chassis

8019





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SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with otherm akers. Critical parts are marked with ⚠ in the circuit diagram and printed wiring board.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS

● GENERAL SPECIFICATIONS

Power Supply:	AC 120V, 60 Hz [for CS] AC 220V, 50 Hz [for ES, ZS, VS] AC 240V, 50 Hz [for BS, SA] AC 110-120V, 200-220V, 230-240V, 50/60 [for EW]
Power Consumption:	200W 250VA [for CS] 320W [except CS]
Dimensions:	370 (W) x 296 (H) x 300 (D) mm
Weight:	9 kg

● AMPLIFIER SECTION

Audio Output:	50W + 50W (8 ohms, 1 kHz, T.H.D 0.7%) BTL
Tone Control:	63 Hz ± 10 dB, 250 Hz ± 10 dB, 1 kHz ± 10 dB, 4 kHz ± 10 dB, 16 kHz ± 10 dB
Input Sensitivity and Impedance:	PHONO: 3 mV/50 kohms CD: 200 mV/50 kohms
Load Impedance:	Speaker: 8 to 16 ohms Headphones: 100 ohms

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

STEREO TUNER-AMPLIFIER DOUBLE CASSETTE RECORDER

July 1988 **YOKOHAMA WORKS**

● TUNER SECTION

Circuit System: FM/AM 2-band superheterodyne [except BS, ES, VS]
FM/MW/LW 3-band superheterodyne [for BS, ES, VS]

Tuning Range: FM: 87.5 to 108 MHz (50 kHz step) [except CS]
87.9 to 107.9 MHz (100 kHz step) [for CS]
AM (MW): 522 to 1,611 kHz (9 kHz step) [except CS, EW]
530 to 1,620 kHz (10 kHz step) [for CS]
522-1,611/530-1620 kHz (9/10 kHz step) [for EW]
LW: 153 to 281 kHz (1 kHz step) [for BS, ES, VS]

IEC Sensitivity: FM: 1.5 μV
AM: 450 μV

FM Stereo separation: 35 dB

FM Signal to noise Ratio: 60 dB

Antennas input: FM: 75 ohms unbalanced
AM(MW, LW): Loop antenna and External terminals

● TAPE DECK SECTION

Cassette tape deck

Tape:	Cassette tape
Tape Speed:	4.75 cm/s
Recording System and Bias Frequency:	AC bias, 85 kHz
Track System:	4 track 2 channel
Erasing System:	AC erase
Frequency Response:	Normal: 70 Hz to 14 kHz Metal: 70 Hz to 14 kHz
Signal-to-Noise Ratio:	Dolby NR ON: 58 dB Dolby NR OFF: 50 dB
Crosstalk:	65 dB
Erase Ratio:	70 dB
Motor:	DC Motor
Wow and Flutter:	0.1% (WRMS)

● REMOTE CONTROLLER (RB-MD50)

Dimensions: 63 (W) x 148 (H) x 18 (D) mm

Weight: 110 g

Specifications and design may be changed without notice for improvement.

NOTE: Multi voltage unit can be operated on 110V to 120, 200V to 220V or ~ 230V to 240V (When the voltage selector is changed.)

When switching the voltage selector from 110-120V to 200-220V or 230-240V, o from 200-220V or 230-240V to 110-120V, replace the primary fuse as well.

SICHERHEITSMASSNAHMEN

Bei Wartungsarbeiten sind die folgenden Sicherheismaßnahmen zu beachten:

1. Da verschiedene Teile dieses Gerätes Sicherheitsfunktionen aufweisen, nur Original-Hitachi-Ersatzteile verwenden.
   Kritische Teile im Netzteil sollten nicht durch ähnliche Teile anderer Hersteller ersetzt werden. Alle kritischen Teile sind im Schaltplan und im Printplatten mit dem Symbol ⚠ gekennzeichnet.
2. Vor der Auslieferung eines reparierten Gerätes an den Kunden muß der Wartungstechniker das Gerät einer gründlichen Prüfung unterziehen, um sicherzustellen, daß sicherer Betrieb ohne die Gefahr von elektrischen Schlägen gewährleistet ist.

TECHNISCHE DATEN

● ALLGEMEINE DATEN

Stromversorgung: AC 120V, 60 Hz [für CS]
AC 220V, 50 Hz [für ES, ZS, VS]
AC 240V, 50 Hz [für BS, SA]
110-120V, 200-220V, 230-240V, 50/60 Hz [für EW]

Leistungsaufnahme: 200W (250VA)
320W [außer CS]

Abmessungen: 370 (B) x 296 (H) x 300 (T) mm

Gewicht: 9 kg

● VERSTÄRKER-TEIL

Tonausgangsleistung: 50W + 50 W (8 Ohm, 1 kHz, Gesamtklirrfaktor 0.7%)

Klangregelung: 63 Hz ± 10 dB, 250 Hz ± 10 dB, 1 kHz ± 10 dB, 4 kHz ± 10 dB, 16 kHz ± 10 dB

Eingangsempfindichkeit und impedanz: PHONO: 3 mV/50 kOhm
CD: 200 mV/50 kOhm

Belastungsimpedanz: Lautsprecher: 8 bis 16 Ohm
Kophörer: 100 Ohm

● TUNER-TEIL

Schaltungssystem: UKW-MW 2-Band Superhet [anßer BS, ES, VS]
UKW-MW/LW 3-Band Superhet [für BS, ES, VS]

Abstimmbereiche: UKW: 87.5 bis 108 MHz (50 kHz-Raster) [außer CS, SA]
87.9 to 107.9 MHz (100 kHz-Kanallabstand) [für CS, SA]
AM (MW): 522 bis 1,611kHz (9 kHz-Raster)
530 bis 1,620kHz (10 kHz-Raster)
522 to 1,611 kHz/530-1,620 kHz (9/10 kHz-Kanallabstand) [für EW]
LW: 153 bis 281 kHz (1 kHz-Raster) [für BS, ES, VS]

EC-Empfindlichkeit: UKW: 1.5 μV
MW: 450 μV

UKW-Stereo Kanaltrennung: 35 dB

UKW-Rauschabstand: 60 dB

Antenneneingang: UKW: 75 Ohm asymmetrisch
MW, LW: Rahmenantenne und Außenantennenklemmen

● KASSETTENDECK-TEIL

Kassettendeck

Band:	Kassettenband
Bandgeschwindigkeit:	4,75 cm/s
Aufnahmesystem und Vormagnetisierungsfrequenz:	Wechselstrom-Vormagnetisierung, 85 kHz
Spursystem:	4 Spuren, 2 Kanäle
Löschsystem:	Wechselstrom-Löschung

Frequenzgang:	Normalband: 70 Hz bis 14 kHz Reineisenbandband: 70 Hz bis 14 kHz
Rauschabstand:	Dolby-Rauschunterdrückung EIN: 58 dB Dolby-Rauschunterdrückung AUS: 50 dB
Kopiereffekt:	65 dB
Löschverhältnis:	70 dB
Motor:	Gleichstrommotor
Gleichlaufschwankungen:	0.1% (WRMS)

● FERNBEDIENGERÄT (RB-MD50)

Abmessungen:	63 (B) x 148 (H) x 18 (T) mm
Gewicht:	110 g

Änderungen der technischen Daten und äußeren Aufmachung im Sinne von Verbesserungen jederzeit vorbehalten.

HINWEIS: Das Mehrspannungsgerät kann (bei entsprechendem Umschalten des Spannungswählers) mit 110V-120V, 200V-220V oder 230V bis 240V Netzstrom betrieben werden.
Beim Umschalten des Spannungswählers von 110-120V auf 200-220V bzw. 230-240V oder von 200-220V bzw. 230-240V auf 110-120V die Primärkreissicherung ebenfalls austauschen.

PRÉCAUTIONS DE SÉCURITÉ

Les précautions suivantes doivent être observées chaque fois qu'une réparation doit être faite.

1. Etant donné que de nombreux composants de l'appareil possèdent des caractéristiques relatives à la sécurité, utiliser uniquement des pièces de rechange d'origine Hitachi pour effectuer un remplacement. Ceci se rapporte notamment aux pièces critiques du bloc d'alimentation qui ne doivent en aucun cas être remplacées par celles d'autres fabricants. Les pièces critiques sont accompagnés du symbole ⚠ dans le plan de circuit et sur le plan de base.
2. Avant de retourner l'appareil répare au client le technicien doit procéder à un essai complet pour s'assurer qu'il ne présente aucun danger de chocs électriques.

CARACTÉRISTIQUES TECHNIQUES

● CARACTÉRISTIQUES GENÉRALES

Alimentation:	CA120V 60 Hz [pour CS] CA 220V 50 Hz [pour ES, ZS, VS] CA 240V 50 Hz [pour BS, SA] CA 110-120V, 200-220V, 230-240V, 50/60 Hz [pour EW]
Consommation:	200W 250VA [pour CS] 320 W [sauf CS]
Dimensions:	370 (L) x 296 (H) x 300 (P) mm
Poids:	9 kg

● SECTION AMPLIFICATEUR

Sortie audio:	50 W + 50 W (8 ohms, 1 kHz, D.H.T. 0,7%)
Commande de tonalité:	63 Hz ± 10 dB, 250 Hz ± 10 dB, 1 kHz ± 10 dB, 4 kHz ± 10 dB, 16 kHz ± 10 dB
Sensibilité et impédance d'entrée:	PHONO: 3 mV/50 kohms CD: 200 mV/50 kohms
Impédance de charge:	Enceintes: 8 à 16 ohms Casque: 100 ohms

● SECTION RADIO

Système:	FM/AM 2 gammes Superhétérodyne [sauf BS, ES, VS] FM/PO/GO 3 gammes Supenhétérodyne [pour BS, ES, VS]
Gamme d'accord:	FM: 87,5 à 108 MHz (paliers de 50 kHz) [sauf CS, SA] 87,9-107,9 MHz (100 Hz step) [for CS, SA] AM (PO): 522 à 1611 kHz (paliers de 9 kHz) [sauf CS, EW] 530 à 1620 kHz (paliers de 10 kHz) [pour CS] 522-1611/530-1620 kHz [Régie sur 4/10 kHz] GO: 153 à 281 kHz (paliers de 1 kHz) [pour BS, ES, VS]
Sensibilité IEC:	FM: 1,5 μV AM: 450 μV
Séparation FM stéréo:	35 dB
Rapport signal/bruit FM:	60 dB
Entrée d'antennes:	FM: 75 ohms non asymétriques AM (PO, GO): Bornes d'antenne-cadre et d'antenne extérieure

● SECTION PLATINES CASSETTES

Platines cassettes	
Bande:	Bande cassette
Vitesse de bande:	4,75 cm/s
Système d'enregistrement et fréquence de polarisation:	Polarisation CA, 85 kHz
Système de piste:	4 pistes sur 2 canaux
Système d'effacement:	Effacement CA
Réponse de fréquence:	Normale: 70 Hz à 14 kHz Métal: 70 Hz à 14 kHz
Rapport signal/bruit:	Avec le Dolby NR: 58 dB Sans le Dolby NR: 50 dB
Diaphonie:	65 dB
Taux d'effacement:	70 dB
Moteur:	Moteur CC
Pleurage et scintillement:	0,1% (WRMS)

● TÉLÉCOMMANDE (RB-MD50)

Dimensions:	63 (L) x 148 (H) x 18 (P) mm
Poids:	110 g

La conception et les spécifications sont sujettes à modification sans préavis pour des raisons d'amélioration.

REMARQUE: L'appareil multi-tension pourra fonctionner sur 110V à 120V, 200V à 220V ou 230V à 240V (en modifiant le sélecteur de tension).
Lors de la commutation du sélecteur de tension de 110-120V sur 200-220V ou 230-240V, ou de 200-220V ou 230-240V sur 110-120V, remplacer également le fusible primaire.

DISASSEMBLY

1. **Top cover (Fig. 1)**
Remove six screws ① and two screws ②. Remove the Top cover in the direction of arrow Ⓐ.
Note: Attempting to remove the top cover by lifting it by the rear may break the front panel. Lift the top cover straight up and then pull it off toward the rear.

2. **Rear plate (Fig. 2)**
Remove four screws ③, seven screws ④, two screws ⑤ and one screw ⑥.

3. **Tuner P.W.B. (Fig. 3)**
After removing one screw ⑦ and the soldered section Ⓐ , pull the Tuner P.W.B. up in the direction of arrow Ⓑ.

4. **Main P.W.B. (Fig. 4)**
Grasp the power button, lift it in the direction of arrow Ⓒ, and remove it from the power switch. Next. remove six buttons ⑧ and fifteen connectors Ⓐ.

5. **Front panel (Fig. 5)**
Remove five screws ⑨.

6. **Headphones P.W.B. (Fig. 6)**
Remove one screw ⑩.

7. **Switch P.W.B. (Fig. 7)**
After removing the REC level knob, remove five tabs.

8. **Sub P.W.B. (Fig. 8)**
Remove three screws ⑪ and take off the shield plate. Next, remove two screws ⑫ and four connectors Ⓑ.

9. **Switch P.W.B. 1 (Fig. 8)**
After removing two screws ⑬ and one connector Ⓒ, pull the Switch P.W.B. out in the direction of arrow Ⓓ.

10. **Front P.W.B. (Fig. 9)**
Remove three screws ⑭ and fifteen tabs.

11. **Graphic equalizer P.W.B. (Fig. 10)**
Remove the five equalizer knobs and remove two screws ⑮. After the shield plate has been removed, remove five tabs.

12. **LED P.W.B. 1 (Fig. 11)**
Remove four tabs.

13. **Volume P.W.B. 2 (Fig. 12)**
After removing the 3D level knob and one nut, pull the Volume P.W.B. out towards the rear.

14. **Volume P.W.B. (Fig. 13)**
Remove the volume knob and the balance knob. Remove one connector Ⓓ and two nuts.

15. **Deck P.W.B. (Fig. 14)**
Remove four screws ⑯ and ten connectors Ⓔ.

16. **LED P.W.B. 2 (Fig. 15)**
Remove one screw ⑰.

17. **Cassette door (Fig. 16)**
Press the cassette door (open) button to open the cassette door. Remove the eject spring from the arm. Then spread the arm in the direction of arrow Ⓔ and pull the cassette door off.
(Follow the same procedure for Tape 1 and Tape 2.)

18. **Cassette chassis (Fig. 17)**
Remove six screws ⑱ and remove the counter belt.

19. **Amp P.W.B. (Fig. 18)**
Remove five screws ⑲ and three connectors Ⓕ.
(The amp P.W.B. can be removed together with the heat sink.)

DEMONTAGE

1. **Oberabdeckung (Abb. 1)**
Die sechs Schrauben ① und zwei Schrauben ② entfernen. Die Oberabdeckung in Pfeilrichtung Ⓐ abziehen.
Hinweis: Wenn versucht wird, die Oberabdeckung durch Anheben des Rückteils zu entfernen, kann die Frotplatte brechen. Die Oberabdeckung gerade nach oben abheben und dann nach hinten entfernen.

2. **Rückplatte (Abb. 2)**
Die vier Schrauben ③, sieben Schrauben ④, zwei Schrauben ⑤ und eine Schraube ⑥ entfernen.

3. **Tuner-Platine (Abb. 3)**
Nach dem Entfernen eine Schraube ⑦ und des gelöteten Teils Ⓐ die Tuner-Platine in Pfeilrichtung nach oben siehen Ⓑ.

4. **Haupt-Platine (Abb. 4)**
Den Netzschalterknopf in Pfeilrichtung ziehen Ⓒ und vom Netzschalter entfernen. Anschließend die sechs Knöpfe ⑧ und die fünfzehn Stecker Ⓐ entfernen.

5. **Frontplatte (Abb. 5)**
Die fünf Schrauben ⑨ entfernen.

6. **Kopfhörer-Platine (Abb. 6)**
Die eine Schraube ⑩ entfernen.

7. **Schalter-Platine (Abb. 7)**
Nach dem Entfernen des Aufnahmepegelknopfes die fünf Zapfen entfernen.

8. Sub-Platine (Abb. 8)
Die drei Schrauben ⑪ entfernen und das Abschirmblech abnehmen. Anschließend die 2 Schrauben ⑫ und die vier Stecker Ⓑ entfernen.

9. Schalter-Platine (Abb. 8)
Nach dem Entfernen der zwei Schrauben ⑬ und des Steckers Ⓒ die Schalter-Platine in Pfeilrichtung Ⓓ abziehen.

10. Front-Platine (Abb. 9)
Die drei Schrauben ⑭ und fünfzehn Zapfen entfernen.

11. Graphic-Equalizer-Platine (Abb. 10)
Die fünf Schieberknöpfe des Equalizers entfernen und die zwei Schrauben ⑮ entfernen. Wenn das Abschirmblech abgenommen ist, die fünf Zapfen entfernen.

12. LED-Platine (Abb. 11)
Die vier Zapfen entfernen.

13. Potentiometer-Platine 2 (Abb. 12)
Nach dem Entfernen des 3D Pegelreglerknopfes und eine Mutter die Potentiometer-Platine nach hinten abziehen.

14. Potentiometer-Platine (Abb. 13)
Den Lautstärkeknopf und den Balanceknopf entfernen, 1 Stecker Ⓓ und zwei Muttern entfernen.

15. Deck-Platine (Abb. 14)
Die vier Schrauben ⑯ und 10 Stecker Ⓔ entfernen.

16. LED-Platine 2 (Abb. 15)
Eine Schraube ⑰ entfernen.

17. Cassettenklappe (Abb. 16)
Die Cassettenklappentaste (Öffnungstaste) drücken, um die Klappe zu öffnen. Die Auswurffeder vom Arm entfernen. Dann den Arm in Pfeilrichtung Ⓔ bewegen und die Cassettenklappe abziehen.
(Das gleiche Verfahren für Laufwerk 1 und Laufwerk 2 durchführen.)

18. Cassettenchassis (Abb. 17)
Die sechs Schrauben ⑱ entfernen und den Zählwerkriemen abnehmen.

19. Verstärker-Platine (Abb. 18)
Die fünf Schrauben ⑲ und 3 Stecker Ⓕ entfernen.
(Die Verstärker-Platine kann zusammen mit dem Wärmeableitblech entfernt werden.)

DÉMONTAGE

1. Couvercle supérieur (Fig. 1)
Enlever six vis ① et deux vis ②. Dégager le couvercle supérieur dans la direction de la flèche Ⓐ.
Note: Le fait d'essayer de dégager le couvercle supérieur en le soulevent par l'arrière peut endommager le panneau avant. Lever tout d'abord le couvercle supérieur tout droit, puis le dégager vers l'arrière.

2. Plaque arrière (Fig. 2)
Enlever quatre vis ③, sept vis ④, deux vis ⑤ et une vis ⑥.

3. Plaque de circuits imprimés Tuner (Fig. 3)
Après avoir enlevé une vis ⑦ et la section soudée Ⓐ, dégager la plaque de circuits imprimés Tuner dans la direction de la flèche Ⓑ.

4. Plaque principale de circuits imprimés (Fig. 4)
Saisir le bouton de mise sous tension, le lever dans la direction de la flèche Ⓒ et le séparer de l'interrupteur d'alimentation. Puis, enlever six boutons ⑧ et quinze connecteurs Ⓐ.

5. Panneau avant (Fig. 5)
Enlever cinq vis ⑨.

6. Plaque de circuits imprimés casque (Fig. 6)
Enlever une vis ⑩.

7. Plaque de circuits imprimés de commutateurs (Fig. 7)
Après avoir enlevé le bouton de niveau d'enregistrement (REC), enlever cinq agrafes.

8. Sous-plaquette de circuits imprimés (Fig. 8)
Enlever trois vis ⑪ et enlever la plaquette de blindage. Puis, enlever deux vis ⑫ et quatre connecteurs Ⓑ.

9. Plaquette de circuits imprimés 1 (Fig. 8)
Après avoir enlevé deux vis ⑬ et une connecteur Ⓒ, dégager la plaquette de circuits imprimés de commutateurs dans la direction de la flèche Ⓓ.

10. Plaquette de circuits imprimés avant (Fig. 9)
Enlever trois vis ⑭ et quinze agrafes.

11. Plaquette de circuits imprimés d'égaliseur graphique (Fig. 10)
Enlever les cinq boutons de l'égaliseur et en lever deux vis ⑮. Après avoir enlevé la plaquette de blindage, enlever cinq agrafes.

12. Plaquette de circuits imprimés LED 1 (Fig. 11)
Enlever quatre agrafes.

13. Plaquette de circuits imprimés de volume 2 (Fig. 12)
Après avoir enlevé le bouton de volume 3D et une écrou, dégager la plaquette de circuits imprimés de volume vers l'arrière.

14. Plaquette de circuits imprimés de volume (Fig. 13)
Enlever le bouton de volume et le bouton de balance. Enlever une connecteur Ⓓ et deux écrous.

15. Plaquette de circuits imprimés de platine (Fig. 14)
Enlever quatre vis ⑯ et 10 connecteurs Ⓔ.

16. Plaquette de circuits imprimés LED 2 (Fig. 15)
Enlever une vis ⑰.

17. Porte de compartiment cassette (Fig. 16)
Appuyer sur le bouton d'ouverture de la porte du compartiment cassette afin d'ouvrir la porte. Enlever le ressort d'éjection du bras. Puis, dégager le bras dans la direction de la flèche Ⓔ et dégager la porte du compartiment cassette.
(Suivre la même procédure pour la cassette 1 et la cassette 2.)

18. Châssis de platine cassette (Fig. 17)
Enlever six vis ⑱ et enlever la courroie du compteur.

19. Plaquette de circuits imprimés ampli (Fig. 18)
Enlever cinq vis ⑲ et trois connecteurs Ⓕ.
(La plaquette de circuits imprimés ampli peut être enlevée avec le dissipateur de chaleur.)

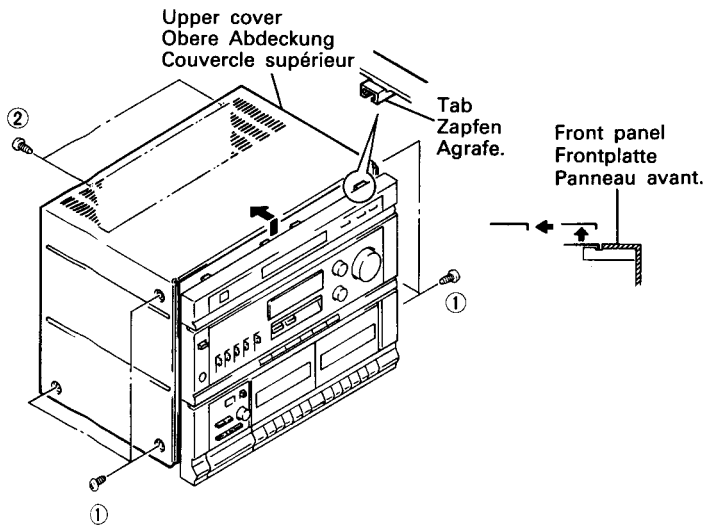


Fig. 1 Abb. 1

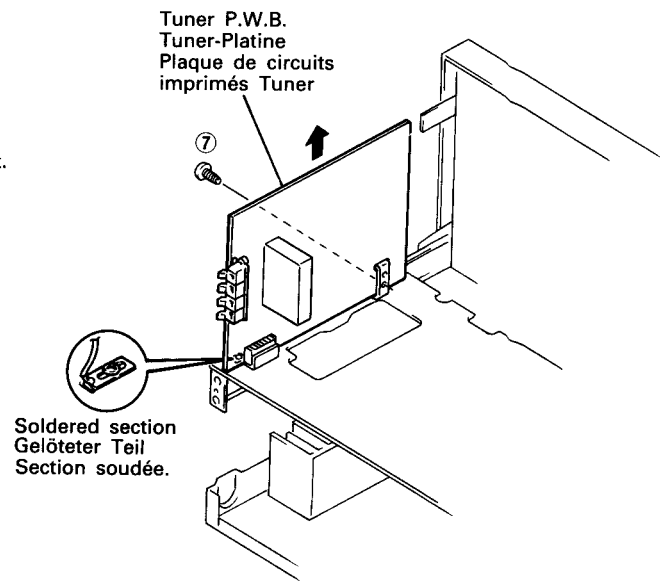


Fig. 3 Abb. 3

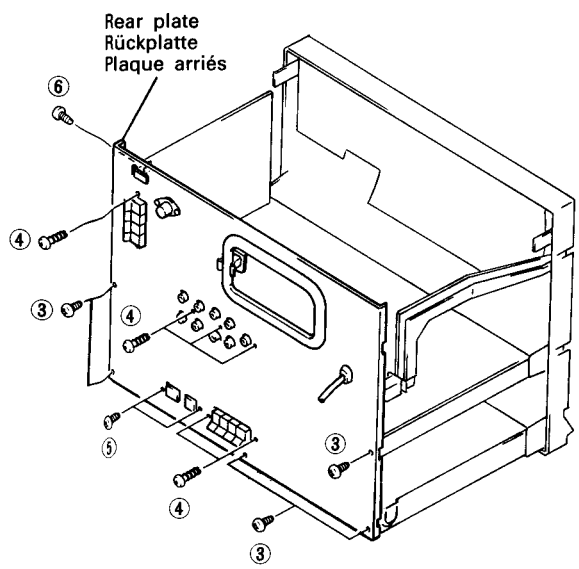


Fig. 2 Abb. 2

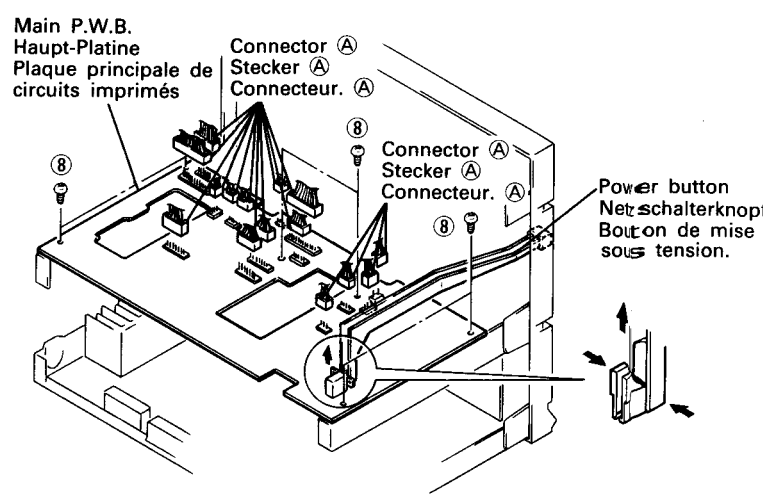


Fig. 4 Abb. 4

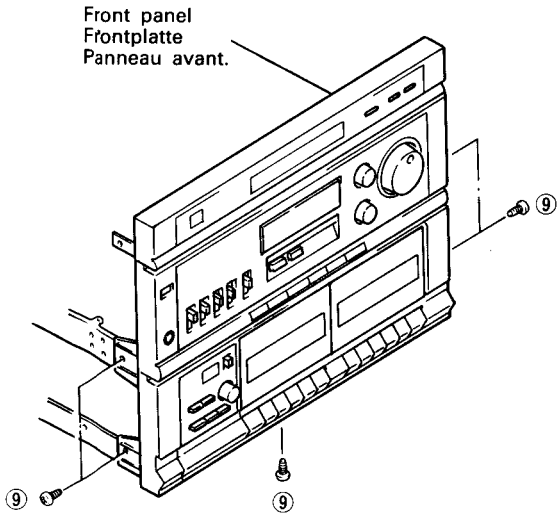


Fig. 5 Abb. 5

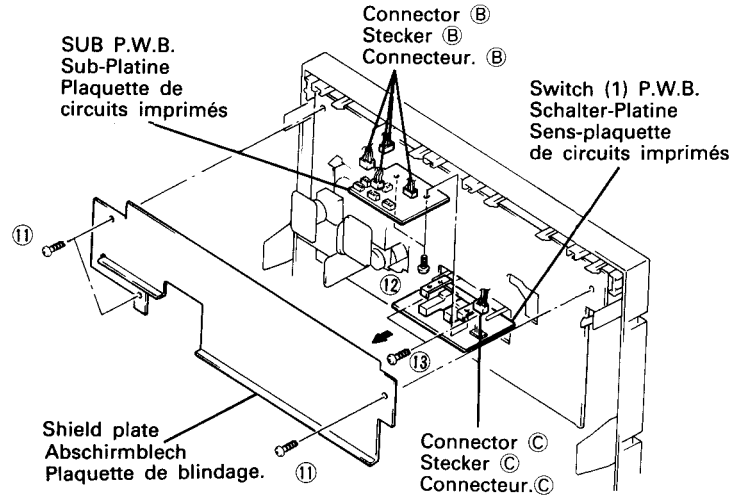


Fig. 8 Abb. 8

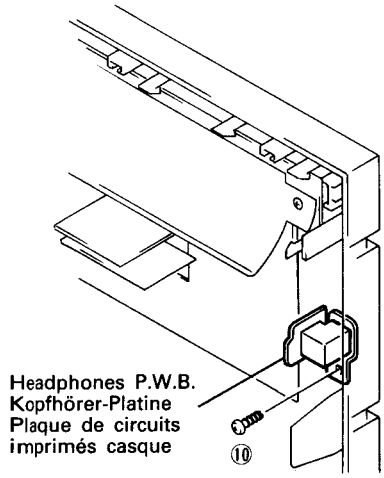


Fig. 6 Abb. 6

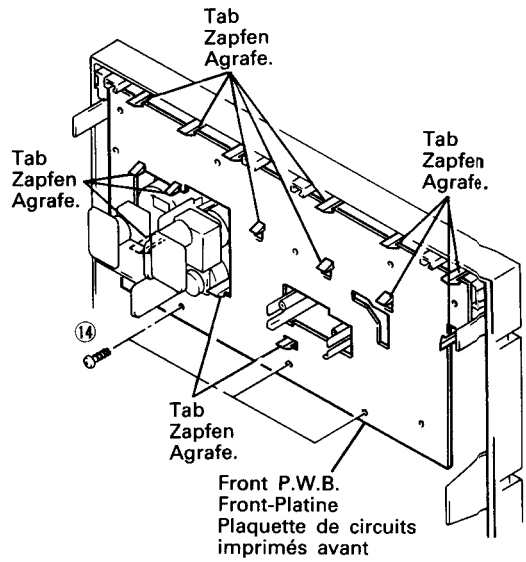


Fig. 9 Abb. 9

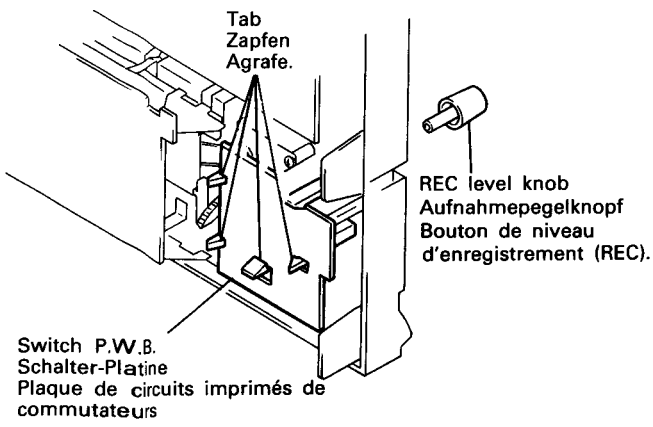


Fig. 7 Abb. 7

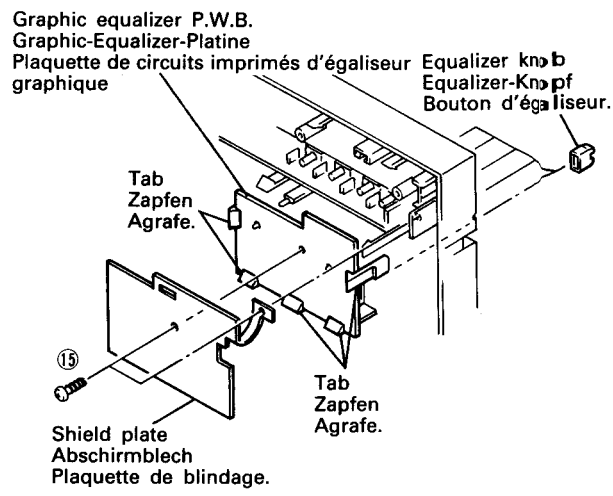


Fig. 10 Abb. 10

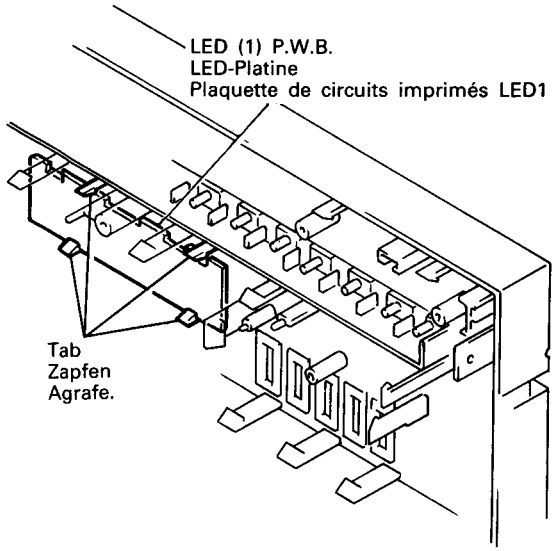


Fig. 11 Abb. 11

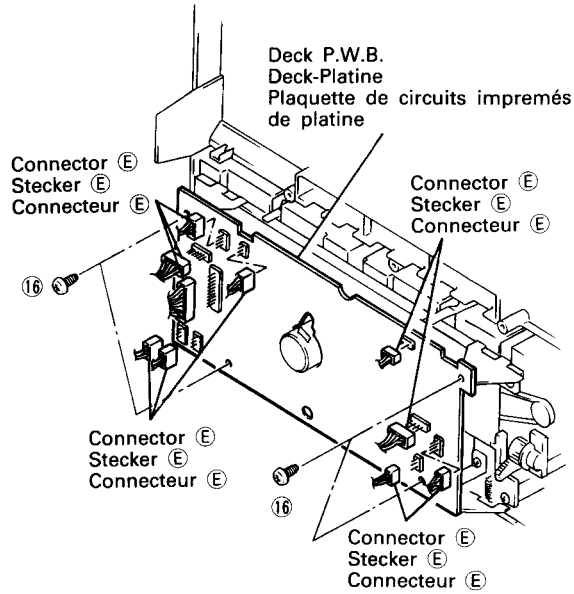


Fig. 14 Abb. 14

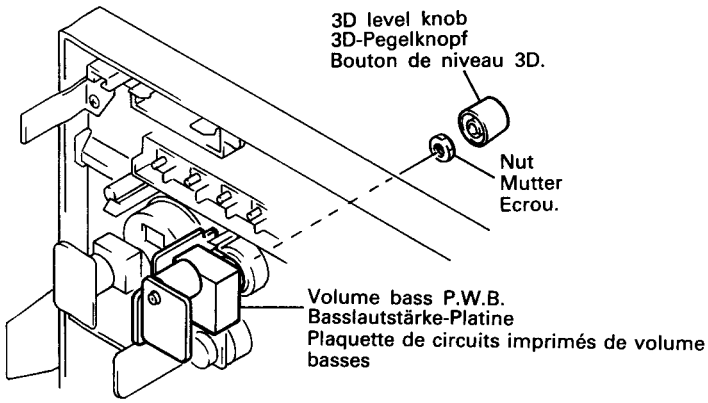


Fig. 12 Abb. 12

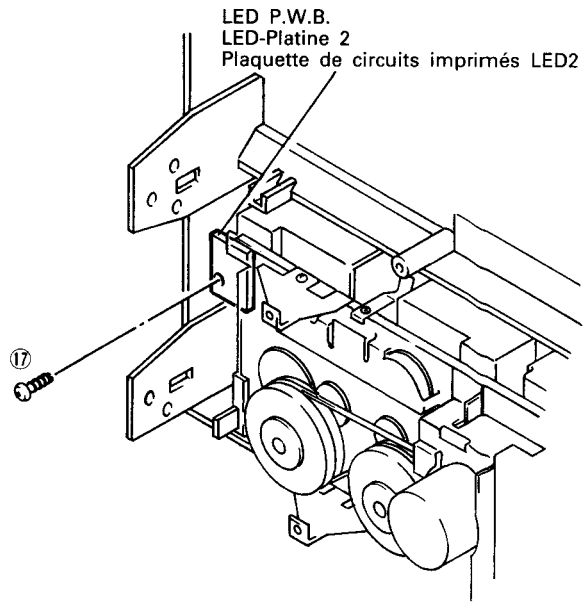


Fig. 15 Abb. 15

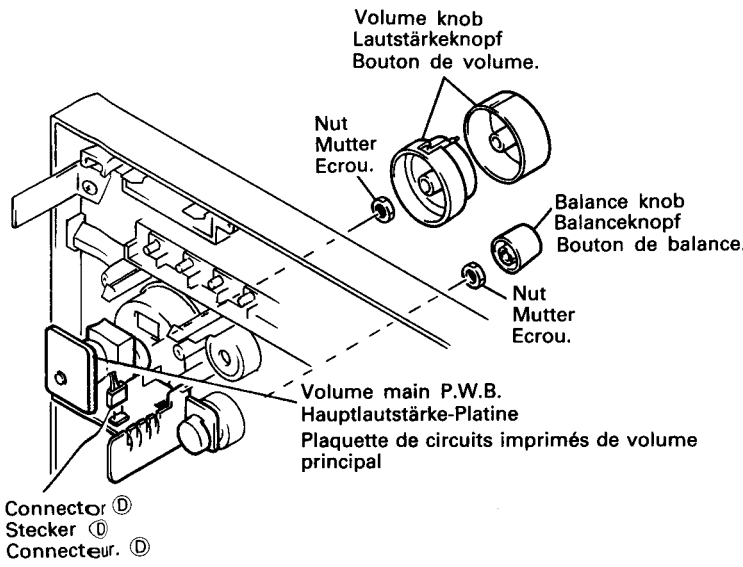


Fig. 13 Abb. 13

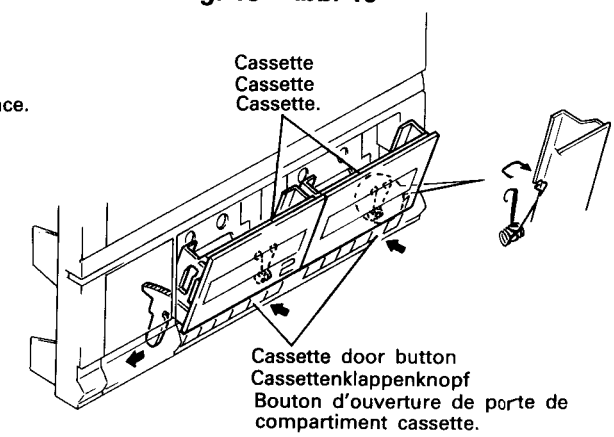


Fig. 16 Abb. 16

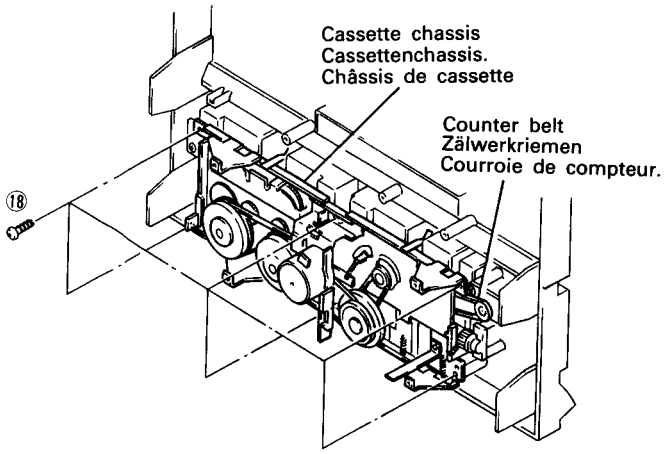


Fig. 17 Abb. 17

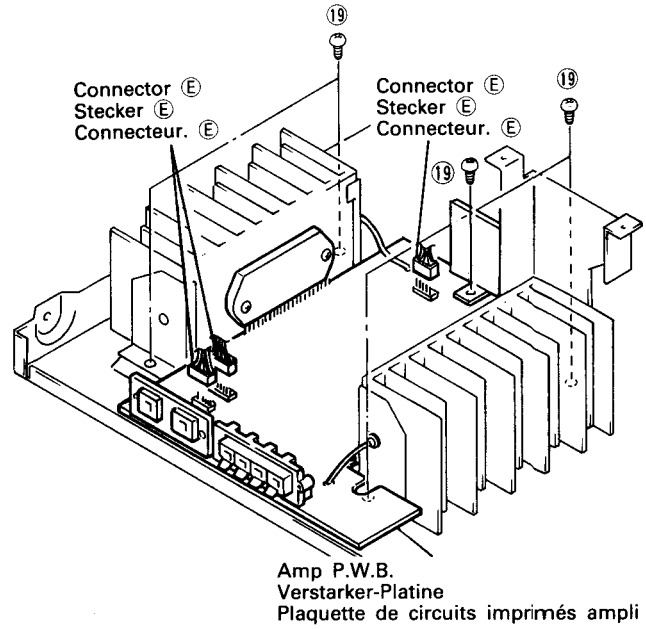


Fig. 18 Abb. 18

ADJUSTMENTS

1. FM, AM TUNER SECTION

- **Adjustment point**

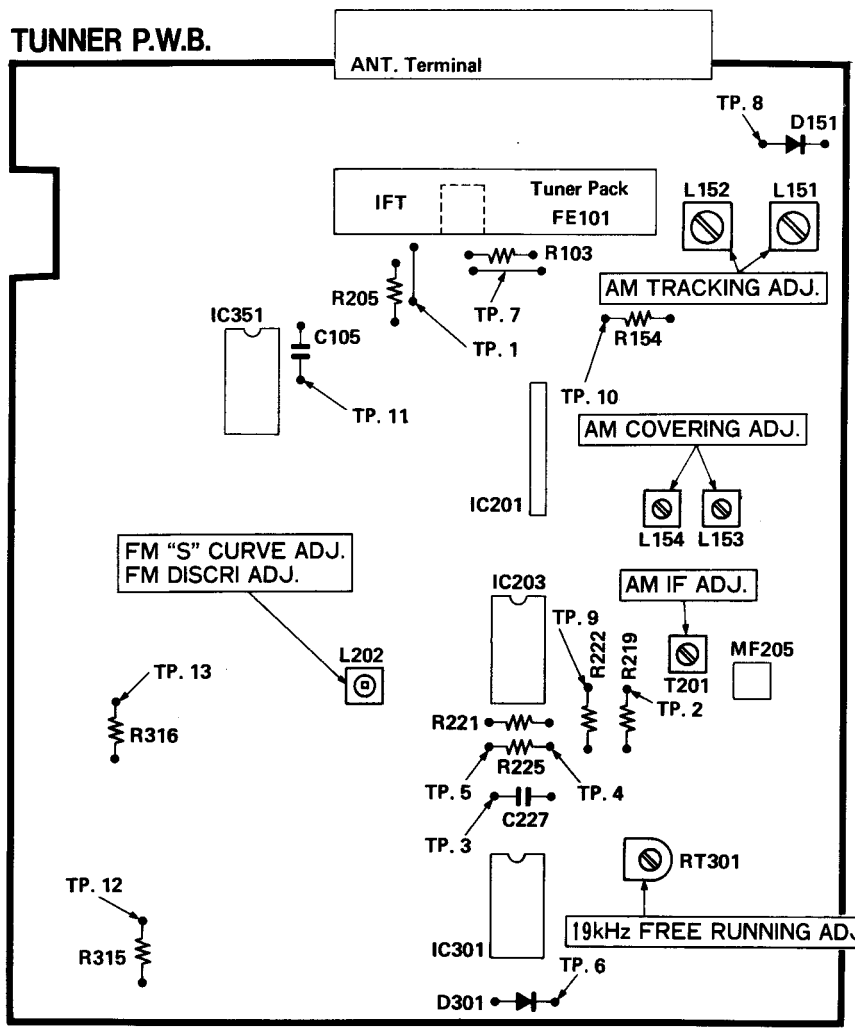


Fig. 19

FM Section

FUNCTION: Tuner (FM)

VOLUME: MIN

FM MODE: MONO

Sweep Generator

Signal Generator

Oscilloscope

DC Null Meter

VTVM

Frequency Counter

Dist. Distortion Meter

(Note 1)

Sequence		Connection		Setting		Adjust for	
		Input	Output	Tuning	Signal	Adjust	Indication
1	IF Amp.	TP. 1 Out 100K 0.1 μ	TP. 2 IN 100K 0.1 μ	—	10.7MHz	FM IFT (Tuner Pack)	(Note 2)
2	"S" curve		TP. 3 IN 0.1 μ 100K	—	10.7MHz	L202	Straight line (Note 3)
3	Discriminator	ANT. Terminal (75 ohms) 400 Hz, 60 dB, 22.5 kHz (dev.)	TP. 4 TP. 5	98.00MHz	98.00MHz	L202	(Note 4)
4	Covering Portée	—					(Note 5)
5	Tracking Alignement	—					(Note 5)
6	19kHz Free Running	ANT. Terminal 75 ohms 60dB μ Non modulated	100K TP. 6	98.00MHz	98.00MHz	RT301	19kHz ± 50Hz

Note 1: Perform adjustment at least 3 minutes after the power has been switched on.

Note 2: Using a sweep generator, apply low-input signals (with a small amount of noise superimposed as in fig. A), and adjust the FM IFT so that the waveforms are brought to their maximum in center marker frequency (10.7 MHz).

Note 3: Adjust the L202 and obtain the S-curve.

Note 4: Connect a DC null meter and adjust L202 for a reading of 0V ± 30mV.

Note 5: FM Tuner pack is aligned before shipping, so it is not necessary to adjust covering and tracking.

AM Section

Condition: Function: TUNER (AM)
Modulation: 400Hz 30%

Conditions: Function: TUNER
Modulation: 400Hz 30%

Sequence		Connection		Setting		Adjust for	
		Input	Output	Tuning	Signal	Adjust	Indication
1	IF Amp.	Out — TP. 8 0.1 μ 100K	TP. 9 — IN 100K 0.1 μ	—	450kHz	T201	MAX Caution 1
2	MW Covering	Loop antenna	TP. 7 (+ / −) GND	530kHz (for US, CS) or 522kHz (except US, CS)	—	L153	530kHz: 1.25VDC 522kHz: 1.2VDC Caution 2
3	MW Tracking		AM IF OUT	600kHz or 603kHz	600kHz or 603kHz	L151	Output max. Caution 3
4	LW Covering		TP. 10 (+ / −) GND	153kHz	—	L154	1.2V Caution 2
5	LW Tracking		AM IF OUT	164kHz	164kHz	L152	Output max. Caution 3

Caution

1. Adjust T201 so that the waveform is as shown in Fig. B. After adjusting as above, increase the output level of the sweep generator and adjust T201 again so that the top of the waveform A (indicated in Fig. C) will be flat and wide.
2. Carry out this adjustment for final adjustment of the coil only when you have moved the core by mistake.
3. Set the input level to 74 dB/m in coarse adjustment. Reduce the input level to minimum (60 dB/m) as adjustment proceeds.

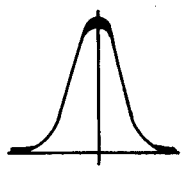


Fig. A

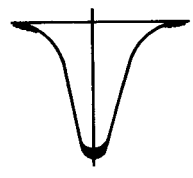


Fig. B

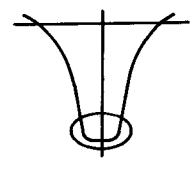


Fig. C

2. TAPE DECK SECTION

- **Adjustment point**

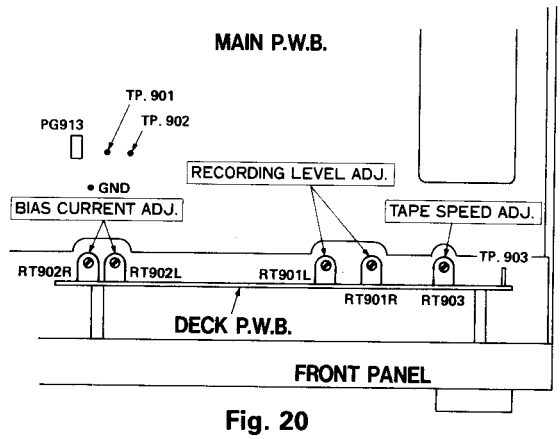


Fig. 20

- **Instruments to be used**
  1. Audio oscillator
  2. Electronic voltmeter
  3. Attenuator
  4. Frequency counter
- **Jigs, Test and Check Tapes**
  1. Head mounting jig
  2. 400 Hz, Dolby alignment tape
  3. 10 kHz, azimuth alignment tape
  4. 3,000 Hz, tape speed alignment tape
  5. Mirror tape (for tape running check)
  6. NORMAL tape (MAXELL UD I 90)
     CHROME tape (MAXELL UD II 90)
     METAL tape (MAXELL MX46)
- **Positions of Knobs**

Match the positions of switches and knobs to those shown in the table following unless otherwise specified.

REC level control (RV901LR)	MAX
Tape select switch (S902)	(Note 1)
RIF switch (S801)	A
Dolby NR switch (S903)	OFF

Note 1: Set tape select switch as shown below according to the tape being used.

Tape used	Tape select switches
No tape used	NORMAL
Test tape	NORMAL
NORMAL tape	NORMAL
CHROME tape	CrO_2
METAL tape	METAL

Open the cassette lid and then clean the heads, pressure rollers and capstans using alcohol, then perform adjustment according to the following procedure.

1. Tape speed adjustment

(1) Connect a frequency counter to TP. 901 or TP. 902. With TAPE 1 play back (forward) about the middle of test tape MTT-111 and adjust RT903 so as to obtain 3,000 Hz ± 20 Hz.
Then make sure of 3,000 Hz ± 90 Hz with TAPE 1 play back (reverse) and TAPE 2 play back.

(2) Make sure of 6,000 Hz ± 600 Hz when the TP903 is shorted to GND.

2. Head azimuth adjustment

(1) Connect AC voltmeter to TP. 901 or TP. 902 play back the test tape MTT-114 (10 kHz) and adjust the head angle adjusting screw so the output is a maximum.
If L and R channel peaks are different, retain L channel peak as main (at this time, the difference in peak between both channels must be 2 dB max.)
Perform this adjustment for both TAPE 1 and 2. After adjustment, apply screw lock.

3. Recording level adjustment

(1) Connect AC voltmeter to TP. 901 or TP. 902, Connect a generator to CD INPUT and apply a sine wave of 1 kHz. Set the deck to a recording status and adjust the generator output so the output at TP. 901 or TP. 902 is 245 mV — 25 dB.

(2) Perform recording and playback and adjust RT901LR so the output at TP. 901 or TP. 902 is 245 mV — 25 dB ± 3 dB.

4. Bias current adjustment

(1) Set RT902LR at about the middle (coarse adjustment).

(2) By Lo-D UDR tape, record and play back a signal of 400 Hz and a signal of 10 kHz at a level of 245 mV — 25 dB. Adjust RT902LR so the output of 10 kHz is ± 1.5 dB with respect to the output of 400 Hz.

(3) Record the signal of 400 Hz at a level of 245 mV — 10 dB. Make sure a played back output is 245 mV — 10 dB ± 2 dB.

(4) Next, use the Item B-6 tape at — 25 dB level and measure record playback frequency characteristics to confirm that these values are within specified limits.

5. Dolby check

(1) At a recording status, apply a sine wave of 5 kHz to CD INPUT and adjust to 245 mV — 25 dB the voltage between test points TP. 901 or TP. 902 and GND.

(2) Make sure the voltage between TP. 901 or TP. 902 and GND is — 19.6 dB ± 2 dB when DOLBY switch is turned on.

6. Cassette Chassis Inspection and Adjustment

No.	Inspection item	Reference value	
		PLAY BACK	RECORD
1	Playback torque	27 to 60 g·cm	27 to 60 g·cm
2	FF/REW torque	55 to 120 g·cm	55 to 120 g·cm
3	Tape drive force	Over 50g	Over 100g
4	Supply back-tension	1.8 to 5.0 g·cm	1.8 to 5.0 g·cm

LUBRICATION

Apply one or two drops of pan motor oil or sonic slider oil to rotating parts. Coat sliding parts with Molycoat (EL-10M). Lubricate once a year or every 1,000 hours of operation. Do not let oil contact belts or idlers.

Rotating parts	Metal to metal	Pan motor oil (10W-40)
	Plastics to metal	Sonic slider oil (#1600)
Sliding parts	(Note) Plastics to plastics Plastics to metal	Molycoat (EL-10M)
Spring vibration prevention		Floyl (GB-TS-1)

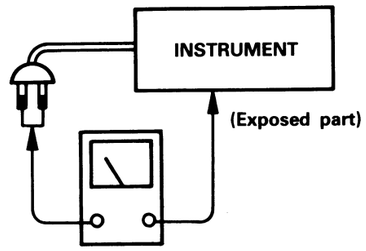
MAINTENANCE

■ **Clean cabinet and panels when dirty**
Clean off dirt on the surfaces with a dry cloth. Never use thinners, benzene or alcohol since these will damage the surface finish.

NOTE:
When front frame and slide knob are replaced, coat both contacting parts lightly with white grease.

Check that exposed parts are acceptably insulated from the supply circuit before returning the instrument repaired to the customer.

- **Checking method**
  Operate switch is set to ON.
  Next, measure the resistance value between the both poles of attachment cup (Power supply plug) and the exposed parts (Parts such as Knob, Cover, etc. where the customer is easy to touch.) and check that the resistance value is 500 kohms or more.



Insulation tester (DC 500V)

EINSTELLUNGEN

1. UKW- und MW-TUNER

● **Einstellungspunkt**

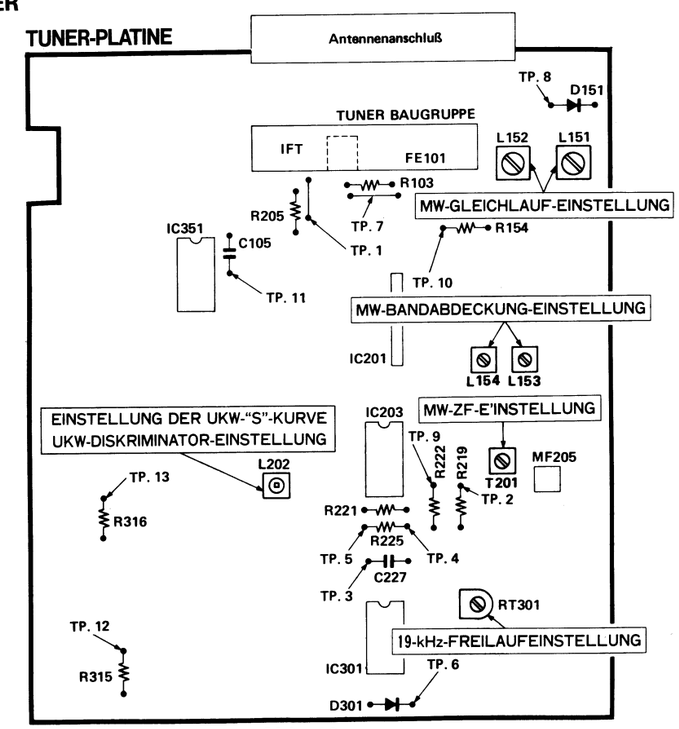


Abb. 19

UKW-Teil

FUNCTION: Tuner (UKW) LAUSTÄRKE: MIN UKW-BETRIEB: MONO

Durchstimmbarer Generator | Signalgenerator | Oszilloskop | Gleichstrom -Nullabgleichgerät

Röhrenvoltmeter | Frequenzzähler | Verzerrungsmesser

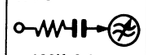
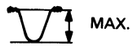
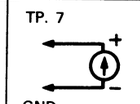
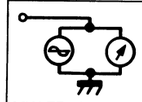
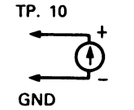
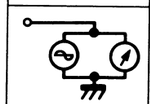
(Hinweis 1)

Reihenfolge		Anschlüsse Eingang	Anschlüsse Ausgang	Einstellwert Abgleich	Einstellwert Signal	Einstellung auf Einstellteil	Einstellung auf Anzeige
1	ZF-Verstärker	TP. 1 Ausgang 100K 0.1μ	TP. 2 Eingang 100K 0.1μ	—	10.7MHz	UKW-ZF-Transformator	(Hinweis 2)
2	"S"-Kurve		TP. 3 Eingang 0.1μ 100K	—	10.7MHz	L202	Gerade Linie (Hinweis 3)
3	Diskriminator	Antennenanschluß (75 Ohm) 400Hz. 60dBμ 22.5kHz (dev.)	TP. 4 TP. 5	98.00MHz	98.00MHz	L202	(Hinweis 4)
4	Bandabdeckung	—					(Hinweis 5)
5	Gleichlauf	—					(Hinweis 5)
6	19kHz Freilauf	Antennenanschluß 75 Ohm 60dBμ Nichtmoduliert	TP. 6	98.00MHz	98.00MHz	RT301	19kHz ± 50Hz

Hinweis 1: Einstellung frühestens 3 Minuten nach Einschalten der Stromversorgung vornehmen.
Hinweis 2: Mit einem durchstimmbaren Generator niedrigpegelige Eingangssignale zuführen (mit geringem überlagertem Rauschanteil wie in Abb. A) und den ZF-Transformator so einstellen, daß die Signale bei der Mitenfrequenz (10.7 MHz) Maximalwert annehmen.
Hinweis 3: Die Spule L202 so einstellen, daß sich eine S-Kurve ergibt.
Hinweis 4: Ein Gleichstrom-Nullabgleichgerät anschließen und mit Spule L202 eine Spannung von 0V ±30 mV einstellen.
Hinweis 5: Die UKW-Baugruppe ist werksseitig abgeglichen, so daß Gleichlauf und Bandabdeckung nicht eingestellt zu werden brauchen.

MW-TEIL

Bedingung: Funktion: TUNER (MW)
Modulation: 400 Hz, 30%

Reihenfolge		Anschlüsse: Eingang	Anschlüsse: Ausgang	Einstellwert: Abgleich	Einstellwert: Signal	Einstellung auf: Einstellteil	Einstellung auf: Anzeige
1	ZF-Verstärker	Ausgang TP. 8 0.1 μ 100K	TP. 9 Eingang  100K 0.1 μ	—	450kHz	T201	 MAX. Vorsichtshinweis 1
2	MW-Bandabdeckung	Schleifenantenne	TP. 7  GND	530kHz (for US, CS) or 522kHz (except US, CS)	—	L153	530kHz: 1.25VDC 522kHz: 1.2VDC Vorsichtshinweis 2
3	MW-Gleichlauf		 MW-ZF, Ausgang	600kHz or 603kHz	600kHz or 603kHz	L151	max. Ausgangssignal Vorsichtshinweis 3
4	LW-Bandabdeckung		TP. 10  GND	153kHz	—	L154	Vorsichtshinweis 2
5	LW-Gleichlauf		 MW-ZF, Ausgang	164kHz	164kHz	L152	max. Ausgangssignal Vorsichtshinweis 3

Vorsichtshinweise

1. Mit T201 den in Abb. B gezeigten Signalverlauf einstellen. Nach dieser Einstellung den Ausgangspegel des durchstimmbaren Generators anheben und T201 erneut so einstellen, daß der opere Teil von Signal A (siehe Abb. C) flach und breit verläuft.
2. Diese Endeinstellung der Spule nur dann vornehmen, wenn der der Spulenkern versehentlich verschoben worden ist.
3. Bei der Grobeinstellung den Eingangspegel auf 74 dB/m setzen. Im Verlauf des Einstellvorgangs den Eingangspegel auf Mindestwert (50 dB/m) bringen.

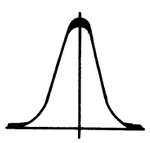


Abb. A

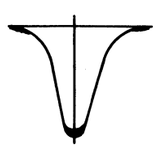


Abb. B

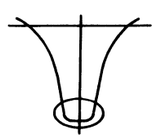


Abb. C

2. CASSETTENDECK-TEIL

● **Einstellungspunkt**

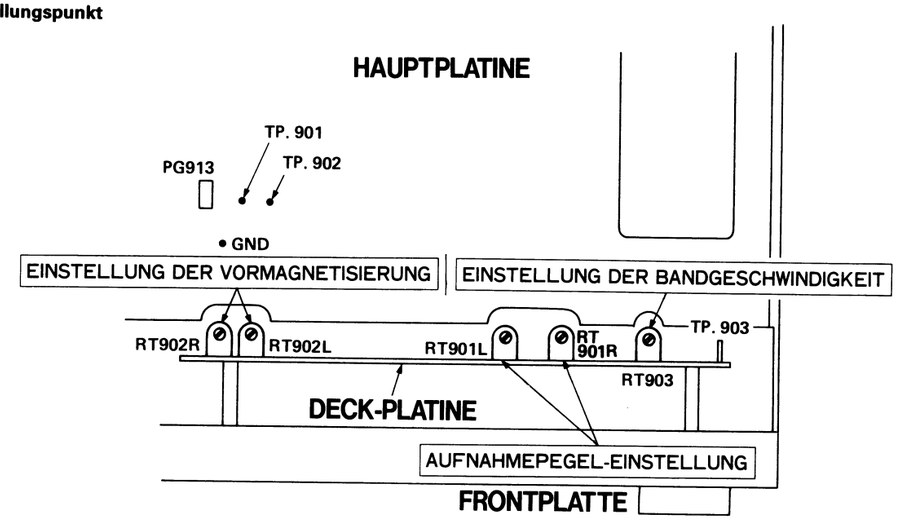


Abb. 20

● **Erforderliche Meßinstrumente**

1. Audio-Oszillator
2. Elektronisches Voltmeter
3. Dämpfungsglied
4. Frequenzzähler

● **Prüfvorrichtungen und Testbänder**

1. Kopfmontage-Vorrichtung
2. 400 Hz, Dolby-Einstellband
3. 10 kHz, Azimut-Einstellband
4. 3000 Hz, Einstellband für Bandgeschwindigkeit
5. Spiegelband (für Bandtransportprüfung)
6. Normalband (MAXELL UD I 90)
   Chromband (MAXELL UD II 90)
   Metal-Band (MAXELL MX46)

● **Stellung der Einstellelemente**

Wenn nicht anderns angegeben, die Einstellelemente wie in der folgenden Tabelle einstellen.

Aufnahmepegel-Regler (RV901LR)	Maximalstellung (MAX)
Bandsortenwahlschalter (S902)	(Hinweis 1)
RIF-Schalter (S801)	A
Dolby NR-Schalter (S903)	Ausschaltstellung (OFF)

Hinweis 1: Den Bandsortenwahlschalter wie unten gezeigt gemäß der verwendeten Bandsorte einstellen.

Verwendetes Band	Bandsortenwahlschalter
Kein Band	NORMAL
Testband	NORMAL
Normalband	NORMAL
Chromband	CrO_2
Reineisenband	METAL

Die Cassettenfachtür öffnen und die Tonköpfe, die Andruckrollen und Tonwellen mit Alkohol reinigen. Dann die im folgenden beschriebenen Einstellungen vornehmen.

1. Einstellung der Bandgeschwindigkeit

(1) Den Frequenzzähler mit Meßpunkt TP901 oder TP902 verbinden. Das Testband MTT-111 mit Laufwerk TAPE 1 bis etwa zur Mitte abspielen (Vorwärtsrichtung) und mit RT903 eine Frequenz von 3000 ± 20 Hz einstellen. Anschließend bei Bandwiedergabe mit Laufwerk TAPE 1 (Rückwärtsrichtung) und Laufwerk TAPE 2 eine Frequenz von 3000 ± 90 Hz einstellen.

(2) Sicherstellen, daß sich ein Wert von 6000 ± 600 Hz ergibt, wenn TP903 mit Masse (GND) kurzgeschlossen ist.

2. Einstellung des Kopfazimuts

(1) Das Wechselspannungsvoltmeter mit Meßpunkt TP901 oder TP902 verbinden und das Testband MTT-114 (10 kHz) abspielen. Dabei mit der Kopfazimuteinstellschraube maximalen Ausgangspegel einstellen.
Falls die Spitzenpegel auf dem linken und rechten Kanal verschieden sind, den Spitzenpegel auf dem linken Kanal als Bezugswert festlegen (der Pegelunterschied zwischen beiden Kanälen muß jetzt max. 2 dB betragen). Diese Einstellung bei beiden Laufwerken TAPE 1 und 2 vornehmen. Nach abgelschlossener Einstellung die Einstellschraube mit Sicherungslack fixieren.

3. Einstellung des Aufnahmepegels

(1) Das Wechselspannungsvoltmeter mit Meßpunkt TP901 oder TP902 verbinden. Den Signalgenerator mit Eingang CD INPUT verbinden und dem Cassettendeck ein Sinussignal von 1 kHz zuführen. Das Deck auf Aufnahmebetrieb schalten und das Ausgangssignal des Generators so einstellen, daß an TP901 bzw. TP902 eine Spannung von 245mV — 25 dB anliegt.

(2) Das Deck auf Aufnahme und dann auf Wiedergabe stellen, Dabei mit RT901LR das Ausgangssignal an TP901 bzw. TP902 auf 245 mV — 25 dB ± 3 dB einstellen.

4. Einstellung der Vormagnetisierung

(1) RT902LR ungefähr in Mittelstellung bringen (Grobeinstellung).
(2) Mit Lo-D UDR-Band ein 400-Hz- und 10-kHz-Signal mit einem Pegel von 245 mV — 25 dB aufzeichnen und wiedergeben. RT902LR so einstellen, daß das Ausgangssignal von 10 kHz einen Pegel von ± 1.5 dB gegenüber dem Ausgangspegel von 400 Hz hat.
(3) Das 400-Hz-Signal mit einem Pegel von 245 mV — 10 dB aufzeichnen. Sicherstellen, daß das Wiedergabesignal einen Pegel von 245 mV — 10 dB ± 2 dB hat.
(4) Anschließend das Band bei einem Pegel von — 25 dB verwenden und die Aufnahme/Wiedergabefrequenzkennwerte messen, um zu überprüfen, ob diese Werte innerhalb des vorgeschriebenen Toleranzbereichs liegen.

5. Prüfung der Dolby-Funktion

(1) Bei Aufnahmebetrieb dem Eingang CD INPUT ein 5-kHz-Sinussignal zuführen und die Spannung zwischen Meßpunkt TP901 bzw. TP902 und Masse auf 245 mV — 25 dB einstellen.

SCHMIERUNG

An die drehenden Teilen ein oder zwei Tropfen Motoröl oder Schmieröl (Sonic Slider) geben, und die Gleitteile mit Molycoat (EL-10M) schmieren.
Einmal im Jahr oder alle 1,000 Betriebsstunden schmieren. Darauf achten, da das Öl nicht auf den Riemen oder die Zwischenscheiben gelangt.

PFLEGE DES GERÄTS

■ **Reinigung des Gehäuses und der Oberflächen**
Die Geräteoberflächen mit einem trockenen Tuch reinigen. Keinesfalls Verdünner, Waschbenzin oder Alkohol verwenden, da durch diese scharfen Mittel die Oberflächenbeschichtung angegriffen wird.

(2) Sicherstellen, daß die Spannung swischen TP901 bzw. TP902 und Masse — 19.6 dB ± 2 dB beträgt, wenn der DOLBY-Schalter in Einschaltstellung ist.

6. Prüung und Einstellung des Cassettenchassis

Nr.	Prüpunkt	Bezugswert	
		WIEDERGABE	AUFNAHME
1	Drehmoment bei Wiedergabe	27 bis 60 gcm	27 bis 60 gcm
2	Drehmoment bei Schnellvorlauf/ Rücklauf	55 bis 120 gcm	55 bis 120 gcm
3	Bandantriebskraft	über 50 g	über 100 g
4	Bandabwickelspannung	1.8 bis 5.0 gcm	1.8 bis 5.0 gcm

Drehende Teile	Zwischen Metallteilen	Motoröl (10W-40)
	Zwischen Plastik und Metall	Schmieröl (Sonic Slider #1600)
Gleitteile	(Hinweis) Zwischen Plastikteilen Zwischen Plastik und Metall	Molycoat (EL-10M)
Verhinderung von Federvibrationen		Floyl (GB-TS-1)

Hinweis:
Wenn der Frontrahmen und Schieberegler ersetzt werden, beide Kontaktflächen leicht mit weißem Schmierfett überziehen.

RÉGLAGE

1. Section Tuner FM, AM

● **Points de réglage**

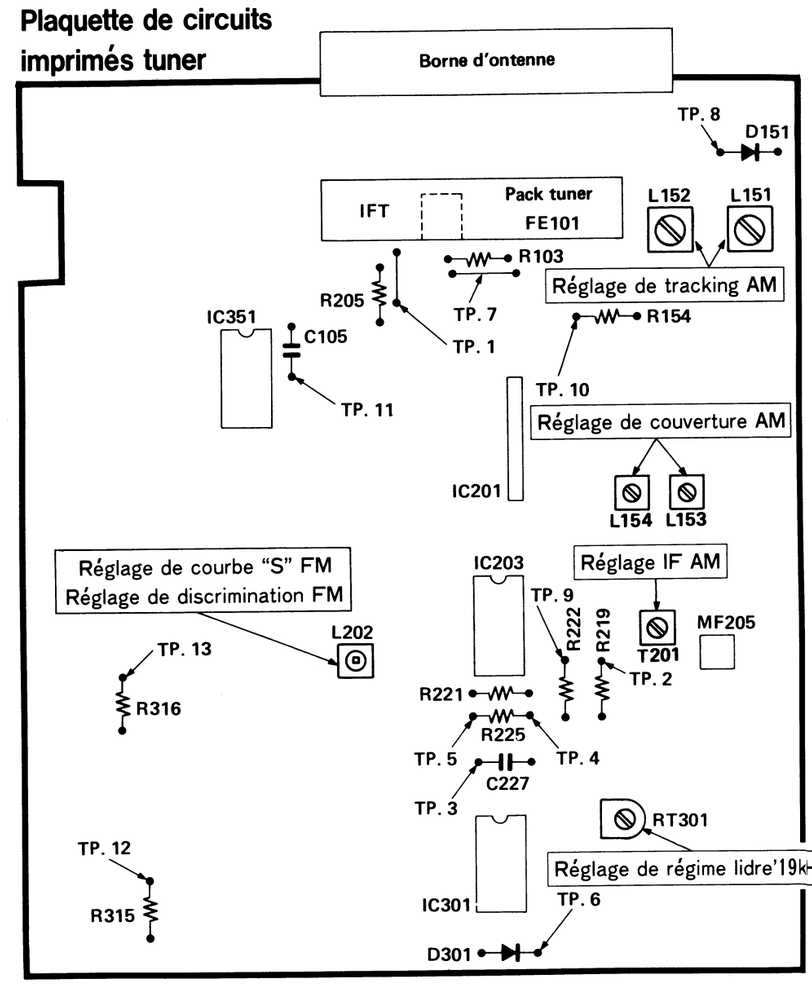


Fig. 19

SECTION FM

FONCTION: TUNER(FM) VOLUME: min Mode FM: Mono

Générateur de balayage | Générateur de signaux | Oscilloscope | Indicateur zero C.C.

Voltmètre électronique | Fréquencemètre | Dist. Distorsionmètre

(Remarque 1)

	Ordre	Connexion		Montage		Réglage pour	
		Enrée	Sortie	Indicateur d'accord	Signal	Réglage	Indication
1	Amplificateur de fréquence intermédiaire		TP. 2 Entrée 100K 0,1 μ	—	10,7MHz	FM IFT (Ensemble Tuner)	(Remarque 2)
2	Courbe "S"	TP. 1 Sortie 100K 0,1 μ	TP. 3 Entrée 100K 0,1 μ	—	10,7MHz	L202	Ligne droite (Remarque 3)
3	Discriminateur	Borne d'antenne (75 ohms) 400Hz, 60dB μ 22,5K (dev.)	TP. 4 TP. 5	98,00MHz	98,00MHz	L202	(Remarque 4)
4	Portée	—					(Remarque 5)
5	Alignement	—					(Remarque 5)
6	Réglage de régime libre 19kHz	Borne d'ontenne (75 ohms) 60dB μ Sens modulation	100K TP. 6	98,00MHz	98,00MHz	RT301	19kHz ± 50Hz

Remarque 1: Effectuer ce réglage au moins 3 minutes après la mise sous tension.
Remarque 2: Utiliser un générateur de balayage et appliquer des signaux d'entrée à faible niveau (avec un faible chevauchement de bruit comme représenté sur la Fig. A), et ajuster FM IFT pour amener les tormes d'ondes à teur maximum de la fréquence nominale de repéage (10,7MHz).
Remarque 3: Ajuster le L202 pour obtenir une courbe en forme de "S".
Remarque 4: Raccorder un indicateur de zéro à courant continu at ajuster le L202 pour obtenir une lecture de 0V ± 30mV.
Remarque 5: L'étage tuner FM est réglé avant son envoi, il est donc inutile o'effectuer le réglage de portée et d'alignement.

SECTION AM

Conditions: Fonction: TUNER
Modulation: 400Hz 30%

	Ordre	Connexion		Montage		Réglage pour	
		Entrée	Sortie	Indicateur d'accord	Signal	Réglage	Indication
1	Amplificateur de fréquence intermédiaire	Sortie TP. 8 100K 0,1 μ	TP. 9 Entrée 100K 0,1 μ	—	450kHz	T201	MAX. Attention 1
2	MW Porté	Antenne en cardon	TP. 7 GND	530kHz (for US, CS) or 522kHz (except US, CS)	—	L153	530kHz: 1,25VDC 522kHz: 1,2VDC Attention 2
3	MW Alignement		AM IF OUT	600kHz or 603kHz	600kHz or 603kHz	L151	Sortie max. Attention 3
4	LW Potée		TP. 10 GND	153kHz	—	L154	1,2V Attention 2
5	LW Alignement		AM IF OUT	164kHz	164kHz	L152	Sortie max. Attention 3

Attention

1. Régler T201 de façon à obtenir une forme d'onde comme indiquée sur la Fig. B. Après avoir régle comme indiqué ci-dessus, augmenter le niveau d'entrée du génerateur de balayage et régler T201 à nouveau de façon que la somm et de la forme d'onde A (voir Fig. C) soit aptati et large.
2. N'effectuer le demier réglage de la bobine par ce réglage que si vous avez bougé l'áme par erreur.
3. Faire un réglage approximastif du niveau d'entrée à 74 dB/m.
   Réduire le niveau d'entrée insqu'à un minimum de 60 dB/m à mesure que l'en effectue réglage.

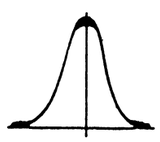


Fig. A

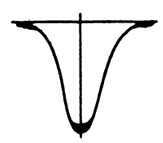


Fig. B

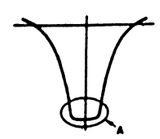


Fig. C

2. SECTION PLATINE-CASSETTE

● **Points de réglage**

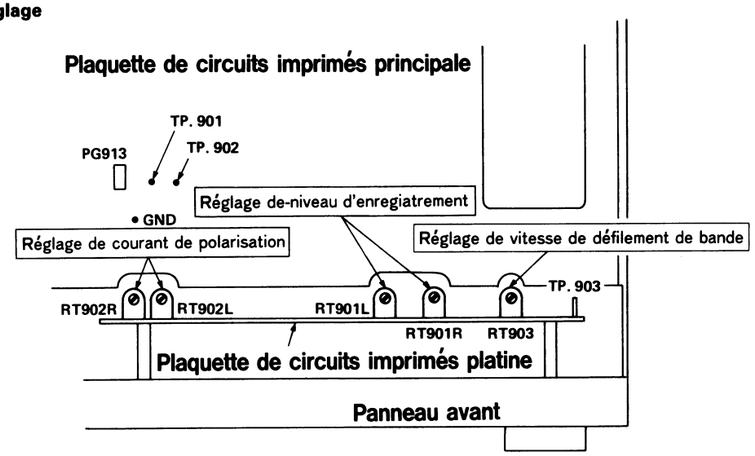


Fig. 20

● **Instrument à utiliser**

1. Oscillateur audio
2. Voltmètre électronique
3. Atténuateur
4. Fréquencemètre

● **Calibres, et bandes d'essai et de vérification**

1. Calibre de montage de téte
2. Bande d'étalonnage Dolby, 400 Hz
3. Bande d'étalonnage d'azimuth, 10 kHz
4. Bande d'étalonnage de la vitesse de la bande, 3000 Hz
5. Bande de la miroir (pour contrôle de défilement de la bande)
6. Bande Normal (MAXELL UD I 90)
   Bande Chrome (MAXELL UD II 90)
   Bande Metal (MAXELL MX46)

● **Positions des boutons**

A moins d'indication contraire, réglar les commutateurs et boutons sur les positions indiquées ci-après.

Commande de niveau d'enregistrement (RV901LR)	MAX
Sélecteur de bande (S902)	(Remarque 1)
Commutateur RIF (S801)	A
Commutateur Dolby NR (S903)	OFF

Remarque 1: Réglar le sélecteur de la bande comme indiqué ci-après, selon le type de la bande utillisé.

Bande	Sélecteur de bande
Bande non utilisee	NORMAL
Bande d'essai	NORMAL
Bande Normal	NORMAL
Bande Chrome	CrO_2
Bande au métal	METAL

Ouvrir le couvercle du legement de la cassette. Puis nettoyer les têtes, le galet presseur et le cabestan avec de l'alcool. Procéder ensuite au réglage suivant.

1. Réglage de vitesse de défilement

(1) Relier un fréquencemètre sur TP 901 ou TP 902. Sur la platine 1, reproduire (sens normal de défilement) environ le milieu de la bande d'essai MTT-111 et régler RT903 de façon à ce que l'on obtienne 3000 Hz ± 20 Hz. Puis, s'assurer du 3000 Hz ± 90 Hz lors de la reproduction sur la platine 1 (sens inverse de défilement) et sur la platine 2.

(2) S'assurer du 6000 Hz ± 600 Hz lorsque TP 903 est court-circuité à la masse (GND).

2. Réglage d'azimuth de tête

(1) Relier un voltmètre CA sur TP 901 ou TP 902. Reproduire environ la bande d'essai MTT-114 (10 kHz) et régler la vis de réglage d'angle de la tête de façon à ce que la sortie soit maximale.
Si les crêtes des canaux gauche (L) et droit (R) sont différantes, prendre la crête du canal gauche (L) comme référence (à ce point, la différence entre les crêtes des deux canaux doit être comprise dans une plage de 2 dB.)
Bffectuer ce réglage pour la platine 1 et la platine 2. Une fois le réglage effectué, appliqué la vis de verrouillage.

3. Réglage du niveau d'enregistrement

(1) Relier un voltmètre CA sur TP 901 ou TP 902. Relier un générateur à l'entrée CD (CD INPUT) et appliquer une onde sinusoidale de 1 kHz. Mettre la platine en mode d'enregistrement et régler la sortie du générateur de façon à ce que la sortie au niveau de TP 901 ou TP 902 soit de 245 mV — 25 dB.

(2) Effectuer l'enregistrement et la reproduction et régler RT 901 LR de façon à ce que la sortie au niveau de TP 901 ou TP 902 soit de 245 mV — 25 dB ± 3 dB.

4. Réglage du ocurant de polarisation

(1) Régler RT 902 LR environ au milieu (réglage grossier).

(2) A l'aide d'une bande Lo-D UDR, enregistrer et reproduire un signal de 400 Hz et un signal de 10 kHz à un niveau de 245 mV — 25 dB. Régler RT 902 LR de façon à ce que la sortie de 10 kHz soit de ± 1,5 dB compte-tenu de la sortie de 400 Hz.

(3) Enregistrer le signal de 400 Hz à un niveau de 245 mV — 10 dB. S'assurer qu'une sortie reproduite soit de 245 mV — 10 dB ± 2 dB.

(4) Puis, utiliser la bande référence à un niveau de — 25 dB et mesurer les caractéristiques de fréquence de reproduction afin de confirmer que ces valeurs sont dans les limites spécifiées.

5. Vérification du Dolby

(1) En mode d'enregistrment, appliquer une onde sinusoîdale de 5 kHz à l'entrée CD (CD INPUT) et régler sur 245 mV — 25 dB la tension entre les points d'essai TP 901 ou TP 902 et la masse (GND).

(2) S'assurer que la tension entre TP 901 ou TP 902 et la masse (GND) soit de — 19,6 dB. ± 2 dB lorsque le commumateur de DOLBY est enclenohé (ON).

6. Inspection et réglage du châssis cassette

No.	Point d'inspection	Valeur de réfénce	
		Reproduction	Enregistrement
1	Couple de reproduction	27 à 60 g·cm	27 à 60 g·cm
2	Couple d'avance/retour rapide (FF/REW)	55 à 120 g·cm	55 à 120 g·cm
3	Force d'entralnement de la bande	Supérieure à 50 g	Supérieure à 100 g
4	Tention de retour d'alimentation	1,8 à 5,0 g·cm	1,8 à 5.0 g·cm

LUBRIFICATION

Appliquer une ou deux gouttes d'huile moteur ou d'huile Sonic pour curseur, sur les membres rotatifs. De la graisse Molycoat (EL-10M) est appliquée sur les membres coulissants.
Lubrifier une fois par an ou toutes les 1,000 heures de fonctionnement.
Veiller à ne pas appliquer d'huile sur les courroies ou les galets.

Membres rotatifs	Entre les parties métalliques	Huile moteur (10W-40)
	Entre le moulage et les parties métalliques	Huile Sonic pour curseur (#1600)
Membres coulissants	(Remarque) Entre moulures Entre moulures et piéces métalliques	Molycoat (EL-10M)
Prévention de vibration de ressort		Floy (GB-TS-1)

Remarque:
Lorsque le châssis avant et le boulon curseur doivent être remplacés, appliquer une couche légère de graisse blanche sur les parties de contact.

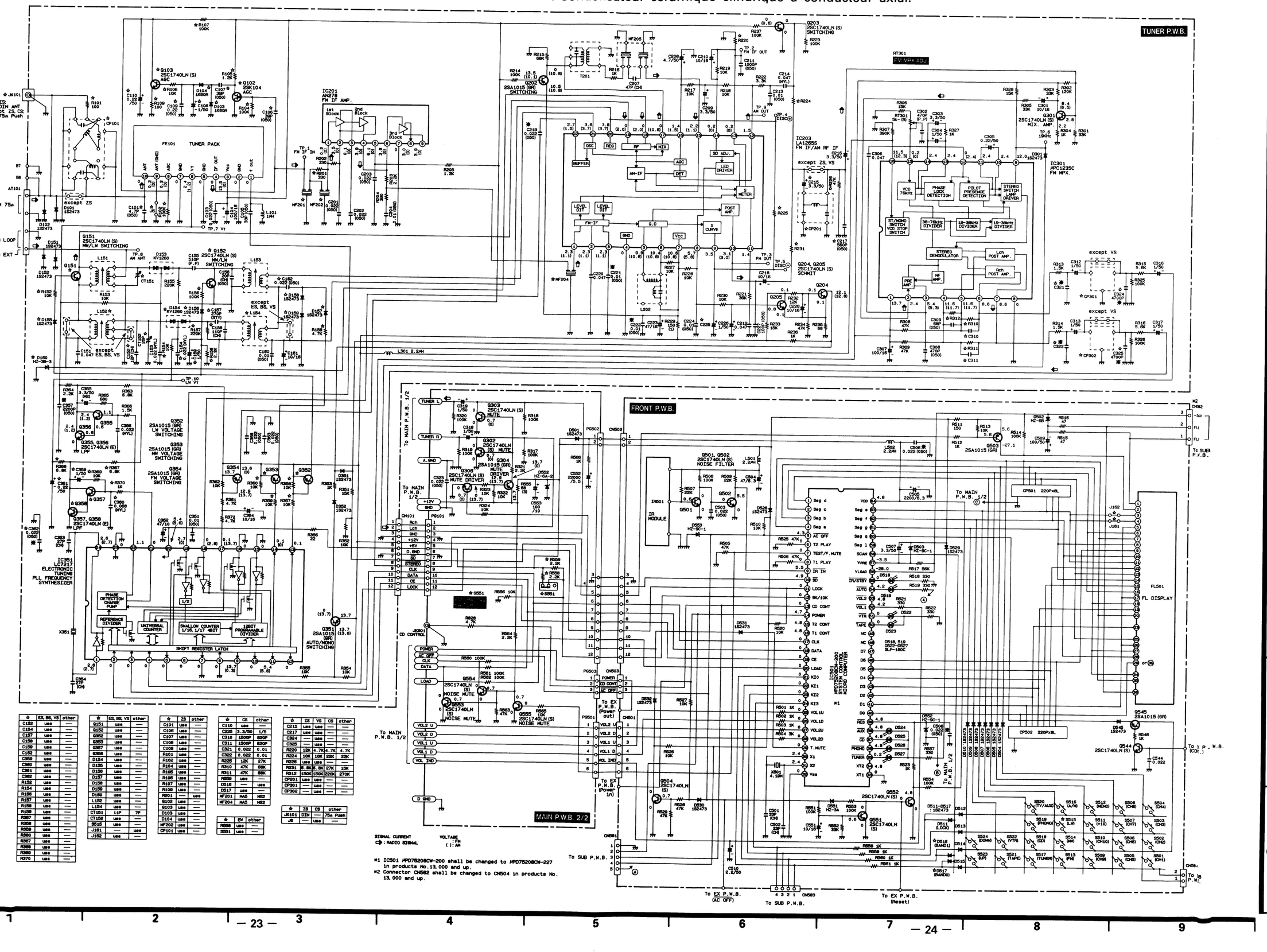
ENTRETIEN

■ **Nettoyage du coffret et des panneaux lorsqu'ils sont sales**

Enlever la poussière des surfaces de l'appareil avec un chiffon sec. Ne jamais utiliser de solvants, de benzine ou d'alcool car ils abîmeraient le fini des surfaces.

CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

※ : Axial lead cylindrical ceramic capacitor.
※ : Zalindrischer Keramikkondensator mit axialer Zuleitung.
※ : Condensateur céramique clindrique à conducteur axial.



☆	ES, BS, VS	other
C152	use	—
C154	use	—
C157	use	—
C159	use	—
C159	use	—
C162	use	—
C358	use	—
C360	use	—
C361	use	—
C362	use	—
R152	use	—
R154	use	—
R156	use	—
R157	use	—
R158	use	—
R159	use	—
R357	use	—
R358	use	—
R359	use	—
R360	use	—
R367	use	—
R368	use	—
R369	use	—
R370	use	—

☆	ES, BS, VS	other
Q151	use	—
Q152	use	—
Q352	use	—
Q353	use	—
Q357	use	—
Q358	use	—
D154	use	—
D155	use	—
D156	use	—
D157	use	—
D158	use	—
D159	use	—
D160	use	—
L152	use	—
L154	use	—
CT151	L1P	7P
CT152	use	—
S515	use	—
J161	use	use
J162	use	—

☆	ZS	other
C101	use	—
C105	use	—
C107	use	—
C108	use	—
C109	use	—
R101	use	—
R104	use	—
R105	use	—
R106	use	—
R107	use	—
R109	use	—
R201	—	use
Q102	use	—
Q103	use	—
Q103	use	—
D104	use	—
HF202	use	—
CP101	use	—

☆	CS	other
C110	use	—
C205	3.3/50	1/5
C310	1500P	820P
C311	1500P	820P
C321	0.022	0.01
C322	0.022	0.01
R225	12K	27K
R310	47K	68K
R311	47K	68K
R659	use	—
D516	—	use
D517	use	—
HF201	HA5	HS2
HF204	HA5	HS2

☆	EX	other
R658	use	—
S551	use	—

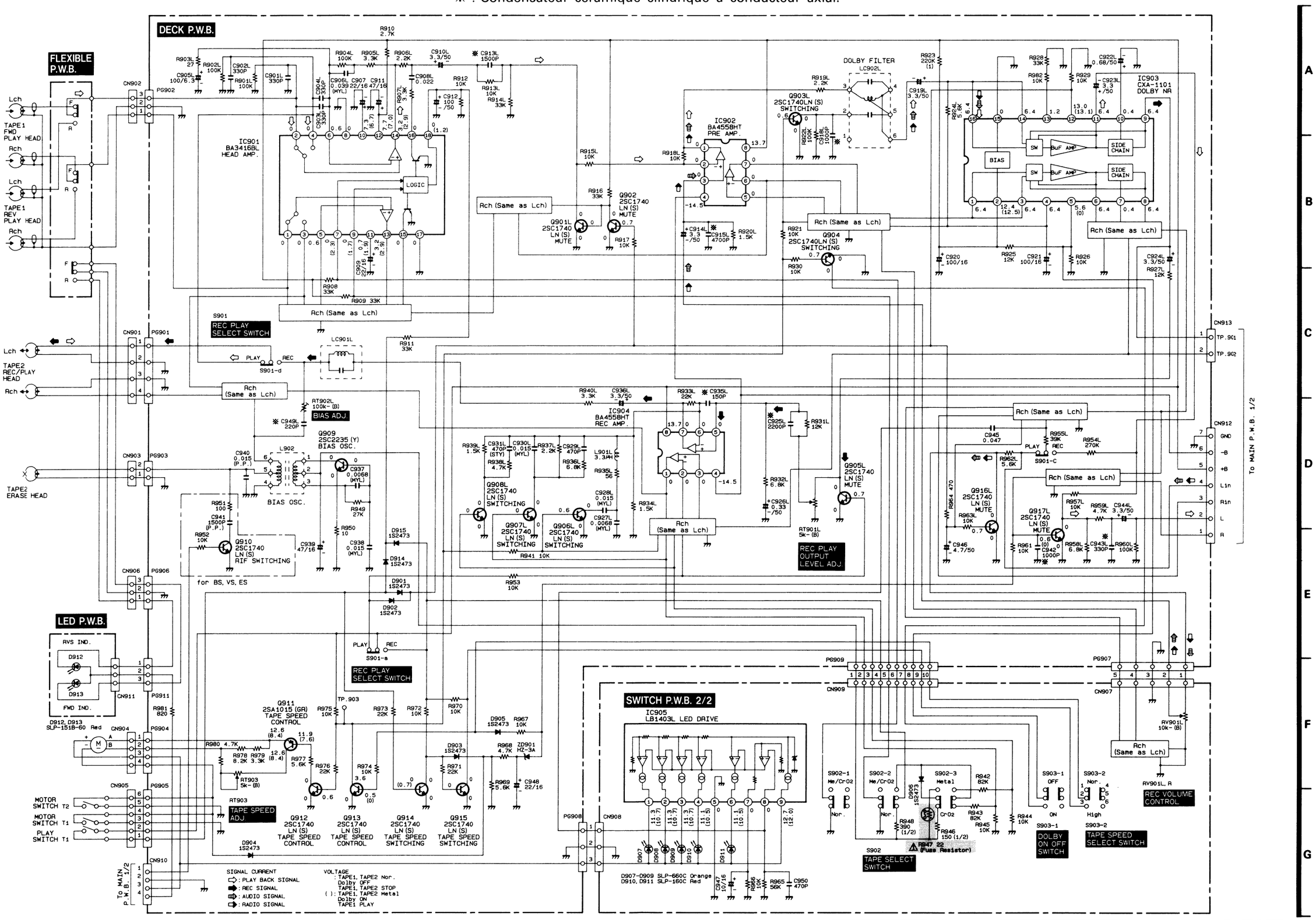
☆	ZS	VS	CS	other
C215	use	use	—	—
C217	use	use	—	—
C324	—	use	—	—
C325	—	use	—	—
R220	12K	4.7K	4.7K	4.7K
R224	10K	22K	22K	22K
R228	use	use	—	—
R231	8.8K	8.8K	27K	15K
R312	150K	150K	220K	270K
CP201	use	use	—	—
CP301	—	use	—	—
CP302	—	use	—	—

☆	ZS	CS	other
JK101	DIN	—	75a Push
J6	—	use	—

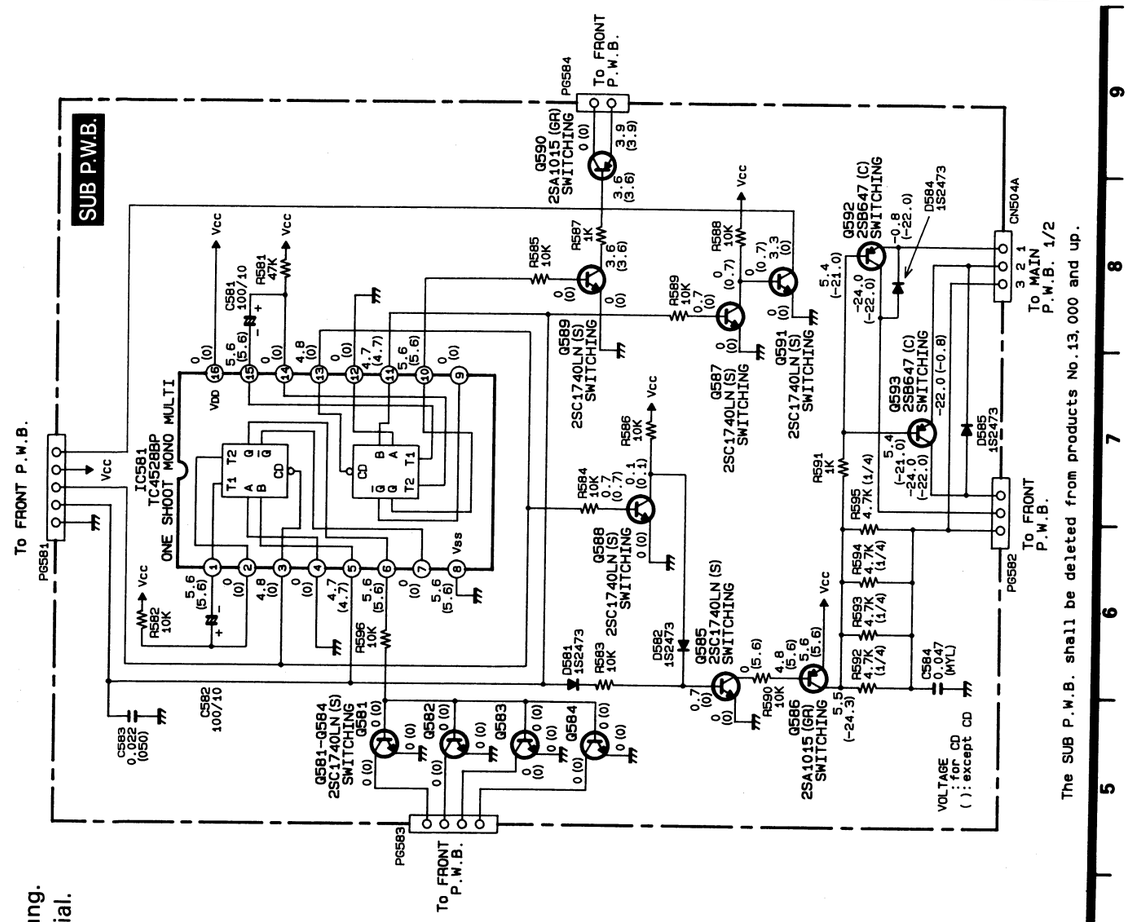
※1 IC501 μPD75208CW-200 shall be changed to μPD75208CW-227 in products No.13,000 and up.
※2 Connector CN582 shall be changed to CN504 in products No. 13,000 and up.

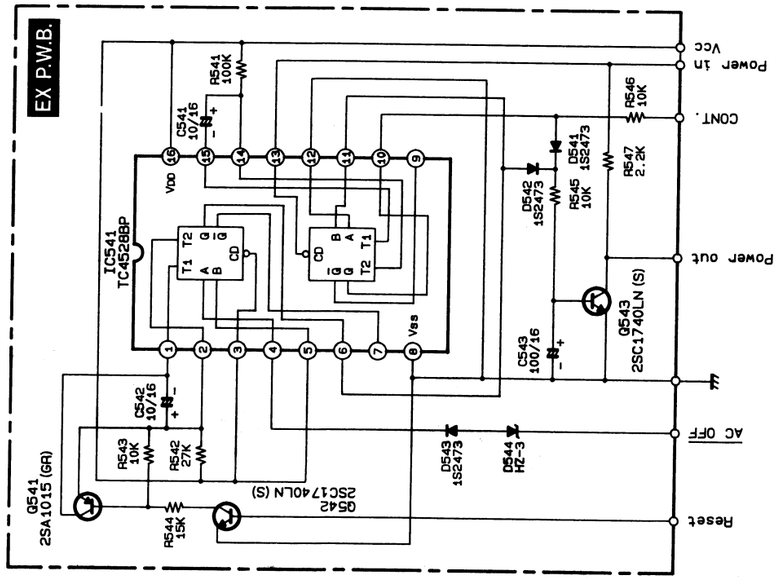
CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

※ : Axial lead cylindrical ceramic capacitor.
※ : Zalindrischer Keramikkondensator mit axialer Zuleitung.
※ : Condensateur céramique clindrique à conducteur axial.



CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT



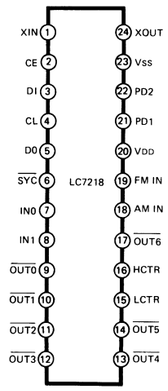


※ : Axial lead cylindrical ceramic capacitor.
※ ※ : Zalindrischer Keramikkondensator mit axialer Zuleitung.
※ ※ : Condensateur céramique clindrique à conducteur axial.

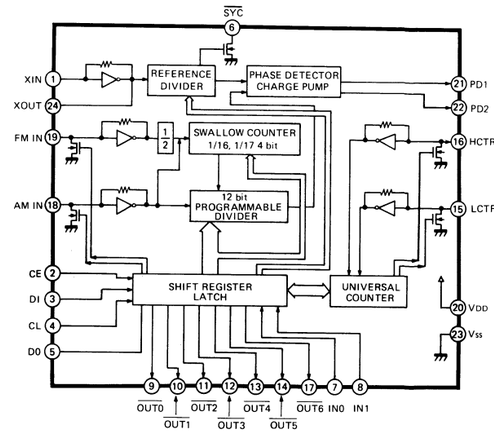
DESCRIPTION OF NEW PARTS · BESCHREIBUNG DER NEUEN BAUTEILE · DESCRIPTION DES NOUVELLES PIECES

1. Electronic-sync PLL frequency synthesizer for AV equipment LC7218 (IC351)
1. Elektronisch synchronisierter PLL-Frequenzsynthesizer für AV-Gerät LC7218 (IC351)
1. Synthétiseur de fréquence PLL à synchronisation électronique pour équipement AV LC7218 (IC351)

(1) Pin layout diagram
(1) Anschlubelegungsdiagramm
(1) Schéma de disposition des broches

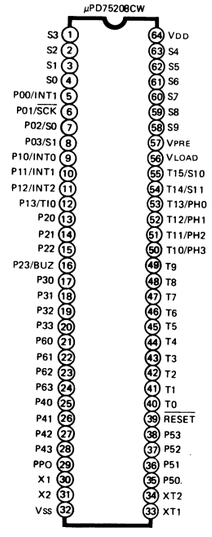


(2) Bolck diagram
(2) Blockschaltbild
(2) Schéma logique

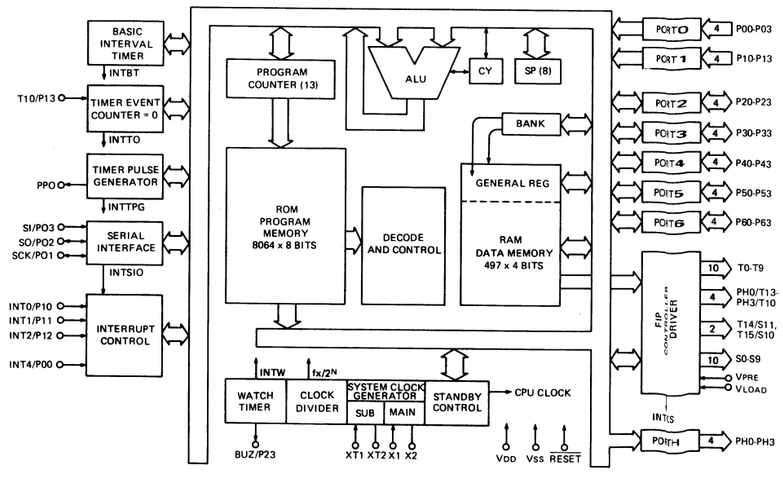


2. 4-bit CMOS one-chip microprocessor μPD75208 (IC501)
2. 4-Bit-CMOS-Einchipmikroprozessor μPD75208 (IC501)
2. Microprocesseur μPD75208 (IC501) CMOS de 4 bits à une microplaquette

(1) Pin layout diagram
(1) Anschlubelegungsdiagramm
(1) Schéma de disposition des broches



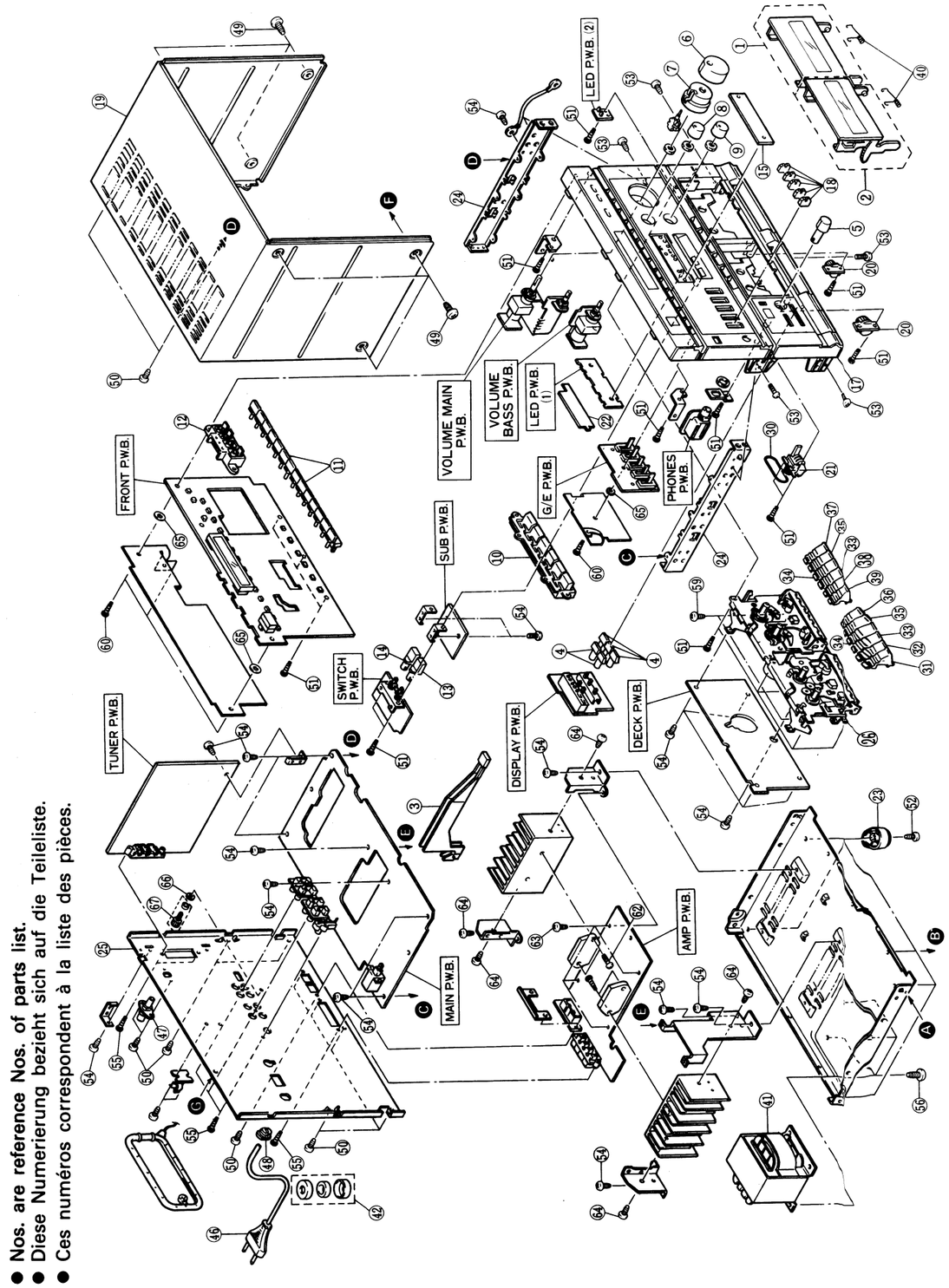
(2) Block diagram
(2) Blockschaltbild
(2) Schéma logique



(3) Individual Terminal Functions
(3) Einzelne Anschlußfunktionen
(3) Fonctions des bornes individuelles

Pin No. Kontakt-Nr. Broche No.	Port Name Port-Bezeichnung Nom du port	I/O E/A I/O	Corresponding Terminal Zugehöriger Anschluß Borne correspondante	Function Funktion Fonction
5	P00	I E	INT4	4-bit input port (PORT0). 4-Bit-Eingangs-Port (PORT0) Port d'entrée 4 bits (PORT0)
6	P01	I/O E/A	$\overline{SCK}$	
7	P02	I/O E/A	SO	
8	P03	I E	SI	
9	P10	I E	INT0	4-bit input port (PORT1). 4-Bit-Eingangs-Port (PORT1) Port d'entrée 4 bits (PORT1) with noise reduction function mit Rauschunterdrückungsfunktion avec fonction de réduction de bruit
10	P11		INT1	
11	P12		INT2	
12	P13		TI0	
13	P20	I/O E/A	—	4-bit input/output port (PORT2). 4-Bit-Ein/Ausgangs-Port (PORT2) Port d'entrée/sortie de 4 bits (PORT2)
14	P21		—	
15	P22		—	
16	P23		BUZ	
17-20	P30-33	I/O E/A	—	Programmable 4-bit input/output port (PORT3). Allows for bit-per-bit input/output setting. Programmierbarer 4-Bit Ein/Ausgangs-Port (PORT3) Möglichkeit für bitweise Ein/Ausgangseinstellung Port d'entrée/sortie de 4 bits programmable (PORT3). Permet un réglage d'entrée/sortie bit par bit.
21-24	P60-P63	I/O E/A	—	Programmable 4-bit input/output port (PORT6). Allows for bit-per-bit input/output setting. Programmierbarer 4-Bit Ein/Ausgangs-Port (PORT6) Möglichkeit für bitweise Ein/Ausgangseinstellung Port d'entrée/sortie de 4 bits programmable (PORT6). Permet un réglage d'entrée/sortie bit par bit.
25-28	P40-P43	I/O E/A	—	4-bit input/output port (PORT4). Allows for direct LED drive. 4-Bit-Ein/Ausgangs-Port (PORT4) Möglichkeit zur direkten LED-Ansteuerung Port d'entrée/sortie de 4 bits (PORT4) Permet une attaque directe des LED.
35-38	P50-P53	I/O E/A	—	4-bit input/output port (PORT5). Allows for direct LED drive. 4-Bit-Ein/Ausgangs-Port (PORT5) Möglichkeit zur direkten LED-Ansteuerung Port d'entrée/sortie de 4 bits (PORT5) Permet une attaque directe des LED.
50	PH3	O A	T10	Built-in pulldown resistor. Ideal for key input. 4-bit P-channel open-drain, high voltage-resistance, high current output port (PORTH). Allows for direct LED drive. Pulldown resistor can be incorporated (mask option). Eingebauter pulldown-widerstand, ideal für Tasteneingabe. 4-Bit-P-kanal-Port, offener Drain, hoher Spannungswiderstand, hoher Ausgangsstrom (PORTH). Möglichkeit für direkte LED-Ansteuerung, Pulldown-Widerstand integrierbar (Maskieroption). Résistance pulldown incorporée. Idéale pour entrée Par touche. Port de sorti à haute intensité, résistant aux tensions élevées, open-drain canal P de 4 bits (PORTH). Permet une attaque directe des LED. Une résistance pulldown peut être incorporée (option masque).
51	PH2		T11	
52	PH1		P12	
53	PH0		P13	

EXPLODED VIEW EXPLOSIONSANSICHT VUE EXPLOSEE
(Cabinet) (Chassis) (Coffret)

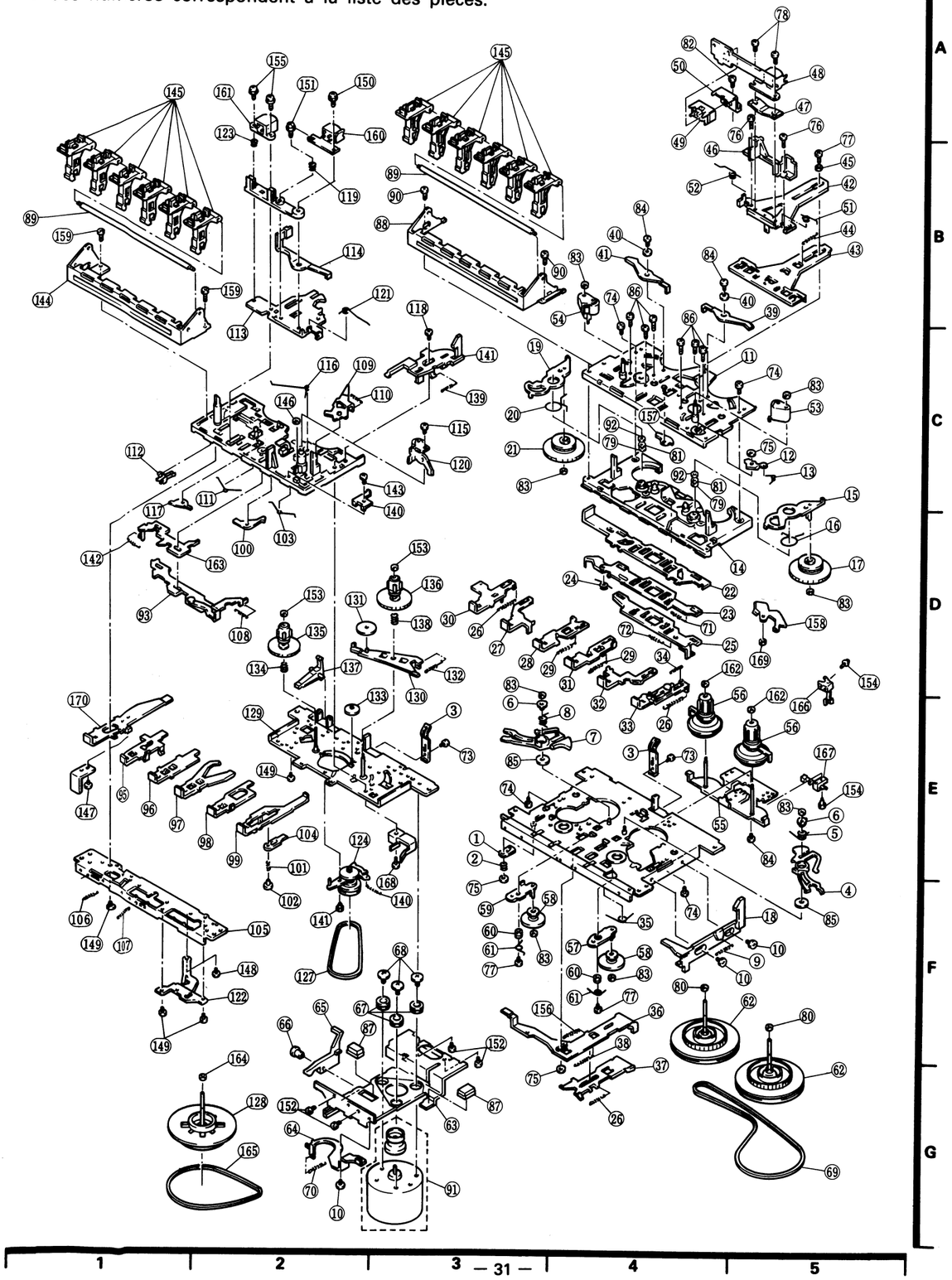


● Nos. are reference Nos. of parts list.
● Diese Numerierung bezieht sich auf die Teileliste.
● Ces numéros correspondent à la liste des pièces.

EXPLODED VIEW EXPLOSIONSANSICHT VUE EXPLOSEE
(Cassette Chasis) (Cassetterdech-Chassis) (Châssis de Cassette)

HRD-MD50 HRD-MD50

- Nos. are reference Nos. of parts list.
- Diese Numerierung bezieht sich auf die Teileliste.
- Ces numéros correspondent à la liste des pièces.



REPLACEMENT PARTS LIST
· ERSATZTEILLISTE
· TABLEAU DES PIÈCES

CC: Cylindrical ceramic EL: Electrolytic MF: Mylar film
CD: Ceramic discal FR: Fuse resistor PP: Polypro-pylen
CF: Carbon film ME: Metal oxide

SYMBOL No.	PART No.	DESCRIPTION
		CAPACITORS
C001	1243901	CD 0.01MF ±100% 400V
C101	0230608	CD 4.7PF ±10% 50V [for ZS]
C103	0240066	CD 0.022 μF +80% −20% 16V
C104	02525312	EL 100 μF ±20% 16V
C105	0230624	CD 33PF ±5% 50V
C106	0230626	CD 39PF ±5% 50V [for ZS]
C107	0230626	CD 39PF ±5% 50V [for ZS]
C108	02528112	EL 1 μF ±20% 50V [for ZS]
C109	0240066	CD 0.022PF +80% −20% 16V [for ZS]
C110	02528022	EL 0.22 μF ±20% 50V
C151	0240220	CD 0.047 μF ±10% 25V
C152	0246442	CD 12PF ±5% 50V [for BS, ES, VS]
C153	02750132	MF 0.022 μF ±10% 50V
C154	02750132	MF 0.022 μF ±10% 50V [for BS, ES, VS]
C155	0279326	MF 510PF ±2% 100V
C156	0230659	CD 12PF ±50% 50V
C157	02283212	MF 220PF ±5% 50V [for BS, ES, VS]
C158	0246465	CD 110PF ±5% 50V [for BS, ES, VS]
C159	02528112	EL 1 μF ±20% 50V [for BS, ES, VS]
C160	0240061	CD 0.01 μF ±30% 16V
C161	02525212	EL 10 μF ±20% 16V
C162	0240066	CD 0.022 μF +80% −20% 16V [for BS, ES, VS]
C201	0240066	CD 0.022 μF +80% −20% 16V
C202	0240066	CD 0.022 μF +80% −20% 16V
C203	0240066	CD 0.022 μF +80% −20% 16V
C204	0240061	CD 0.01 μF ±30% 16V
C207	02464565	CD 47PF ±5% 50V
C208	02528152	EL 4.7 μF ±20% 50V
C209	02528132	EL 3.3 μF ±20% 50V
C210	02525212	EL 10 μF ±20% 16V
C211	0240045	CD 1000PF ±10% 50V
C212	0240220	CD 0.047 μF ±10% 25V
C213	0240061	CD 0.01 μF ±30% 16V
C214	02750152	MF 0.047 μF ±10% 50V
C215	02528132	EL 3.3 μF ±20% 50V [for VS, ZS]
C216	02528132	EL 3.3 μF ±20% 50V
C217	0240042	CD 560PF ±10% 50V [for VS, ZS]
C218	02525212	EL 10 μF ±20% 16V
C219	0240066	CC 0.022 μF +80% −20% 16V
C220	0240220	CD 0.047 μF ±10% 25V
C221	0240061	CC 0.01 μF ±30% 16V
C222	0240061	CC 0.01 μF ±30% 16V
C223	02525252	EL 47 μF ±20% 16V
C224	0240061	CD 0.01 μF ±30% 16V
C225	02528112	EL 1 μF ±20% 50V
C225	02528132	EL 3.3 μF ±20% 50V [for CS]
C226	02528112	EL 1 μF ±20% 50V
C227	0240033	CD 100PF ±10% 50V
C228	02525212	EL 10 μF ±20% 16V
C301	02525212	EL 10 μF ±20% 16V
C302	0279328	MF 470PF ±5% 100V
C303	02528132	EL 3.3 μF ±20% 50V
C304	02528112	EL 1 μF ±20% 50V
C305	02528022	EL 0.22 μF ±20% 50V
C306	0240220	CD 0.047 μF ±10% 25V
C307	0252537	EL 47 μF ±20% 16V
C308	0240041	CD 470PF ±10% 50V
C309	0230632	CD 68PF ±5% 50V
C310	02097262	CD 820PF ±10% 50V [except CS]
C310	02097322	CD 1500PF ±10% 50V [for CS]
C311	02097262	CD 820PF ±10% 50V [except CS]
C311	02097322	CD 1500PF ±10% 50V [for CS]
C312	02528112	EL 1 μF ±20% 50V
C313	02528112	EL 1 μF ±20% 50V
C316	02528112	EL 1 μF ±20% 50V
C317	02528112	EL 1 μF ±20% 50V
C318	02528112	EL 1 μF ±20% 50V
C319	02528112	EL 1 μF ±20% 50V
C321	0240061	CC 0.01 μF ±30% 16V [except CS]
C321	0240066	CC 0.022 μF +80% −20% 16V [for CS]
C322	0240061	CC 0.01 μF ±30% 16V [except CS]
C322	0240066	CC 0.022 μF +80% −20% 16V [for CS]
C323	0240066	CD 0.022 μF +80% −20% 16V
C324	0240057	CC 4700PF ±30% 16V [for VS]
C325	0240057	CC 4700PF ±30% 16V [for VS]
C351	0240061	CC 0.01 μF ±30% 16V
C352	0252325	EL 47 μF ±20% 10V
C353	02464502	CD 27PF ±5% 50V
C354	02464502	CD 27PF ±5% 50V
C355	1252879	EL 3.3MF ±20% 50V
C356	02750132	MF 0.022 μF ±10% 50V
C357	0240053	CC 2200PF ±20% 16V
C359	02528112	EL 1 μF ±20% 50V [for BS, ES, VS]
C360	02750162	MF 0.068 μF ±10% 50V [for BS, ES, VS]
C361	02528022	EL 0.22 μF ±20% 50V [for BS, ES, VS]
C362	0240066	CC 0.022 μF +80% −20% 16V [for BS, ES, VS]
C364	02525212	EL 10 μF ±20% 16V
C401L	0240035	CD 150PF ±10% 50V [except ZS]
C401L	0240039	CD 330PF ±10% 50V [for ZS]
C401R	0240035	CD 150PF ±10% 50V [except ZS]
C401R	0240039	CD 330PF ±10% 50V [for ZS]
C402L	02750162	EL 0.068 μF ±20% 50V
C402R	02750162	EL 0.068 μF ±20% 50V
C403	02525212	EL 10 μF ±20% 16V
C404	02525212	EL 10 μF ±20% 16V
C405L	0240038	CC 270PF ±10% 50V
C405R	0240038	CC 270PF ±10% 50V
C406L	02528	EL 4.7 μF ±20% 50V
C406R	02528	EL 4.7 μF ±20% 50V
C407L	02740362	MF 0.0082 μF ±10% 50V
C407R	02740362	MF 0.0082 μF ±10% 50V
C408L	0240053	CC 2200PF ±20% 16V
C408R	0240053	CC 2200PF ±20% 16V
C409L	02528122	EL 2.2 μF ±20% 50V
C409R	02528122	EL 2.2 μF ±20% 50V
C410L	02528112	EL 1 μF ±20% 50V
C410R	02528112	EL 1 μF ±20% 50V
C411	02525212	EL 10 μF ±20% 16V
C412	02525212	EL 10 μF ±20% 16V
C413L	0240033	CC 100PF ±10% 50V [for ZS]
C413R	0240033	CC 100PF ±10% 50V [for ZS]
C414L	0240033	CC 100PF ±10% 50V [for ZS]
C414R	0240033	CC 100PF ±10% 50V [for ZS]
C415L	0240033	CC 100PF ±10% 50V [for ZS]
C415R	0240033	CC 100PF ±10% 50V [for ZS]
C416L	02528132	EL 3.3 μF ±20% 50V
C416R	02528132	EL 3.3 μF ±20% 50V
C417L	02528132	EL 3.3 μF ±20% 50V
C417R	02528132	EL 3.3 μF ±20% 50V
C418L	02528052	EL 0.47 μF ±20% 50V
C418R	02528052	EL 0.47 μF ±20% 50V
C419L	02528012	EL 0.1 μF ±20% 50V
C419R	02528012	EL 0.1 μF ±20% 50V
C420L	02528032	EL 0.33 μF ±20% 50V
C420R	02528032	EL 0.33 μF ±20% 50V
C421L	02750132	MF 0.022 μF ±10% 50V
C421R	02750132	MF 0.022 μF ±10% 50V
C422L	02750162	MF 0.068 μF ±10% 50V
C422R	02750162	MF 0.068 μF ±10% 50V
C423L	02740152	MF 0.0047 μF ±10% 50V
C423R	02740152	MF 0.0047 μF ±10% 50V
C424L	02750132	MF 0.022 μF ±10% 50V
C424R	02750132	MF 0.022 μF ±10% 50V
C425L	02097312	CD 1000PF ±10% 50V
C425R	02097312	CD 1000PF ±10% 50V
C426L	02740152	MF 0.0042 μF ±10% 50V
C426R	02740152	MF 0.0042 μF ±10% 50V
C427L	02097212	CD 330PF ±10% 50V
C427R	02097212	CD 330PF ±10% 50V
C428L	02097312	CD 1000PF ±10% 50V
C428R	02097312	CD 1000PF ±10% 50V
C429L	02528132	EL 3.3 μF ±20% 50V
C429R	02528132	EL 3.3 μF ±20% 50V
C430	02525252	EL 47 μF ±20% 16V

SYMBOL No.	PART No.	DESCRIPTION			
C431	02525312	EL	100 μF	±20%	16V
C432	0240066	CC	0.022 μF	+80 −20%	16V
C433L	0240051	CC	1500PF	±20%	16V
C433R	0240051	CC	1500PF	±20%	16V
C450	0240066	CC	0.22 μF	+80 −20%	25V
C451	0240066	CC	0.22 μF	+80 −20%	25V
C452	02525252	EL	47 μF	±20%	16V
C453	02525252	EL	47 μF	±20%	16V
C501	02464525	CC	33PF	±5%	50V
C502	02464525	CD	33PF	±5%	50V
C503	0240066	CC	0.022 μF	+80 −20%	16V
C504	02522252	EL	47 μF	±20%	6.3V
C505	0252242K	EL	2200 μF	±20%	6.3V
C506	0240066	CC	0.022 μF	+80 −20%	16V
C507	02528132	EL	3.3 μF	±20%	50V
C508	0240066	CC	0.022 μF	+80 −20%	16V
C509	02528312	EL	100 μF	±20%	50V
C510	0252812	EL	2.2 μF	+80 −20%	50V
C551	02525212	EL	10 μF	±20%	16V
C553	02523312	EL	100 μF	±20%	10V
C581	02523312	EL	100 μF	±20%	10V
C582	02523312	EL	100 μF	±20%	10V
C583	0240066	CC	0.022 μF	+80 −20%	16V
C584	02750152	MF	0.047 μF	±10%	50V
C601	02750152	MF	0.047 μF	±10%	50V
C602	02740162	MF	0.0068 μF	±10%	50V
C603	02760112	MF	0.1 μF	±10%	50V
C604	02525212	EL	10 μF	±20%	16V
C605	02525212	EL	10 μF	±20%	16V
C606	02528132	EL	3.3 μF	±20%	50V
C607	02528132	EL	3.3 μF	±20%	50V
C608	02525212	EL	10 μF	±20%	16V
C701L	0240041	CC	470PF	±10%	50V
C701R	0240041	CC	470PF	±10%	50V
C702L	02522312	EL	100 μF	±20%	6.3V
C702R	02522312	EL	100 μF	±20%	6.3V
C703L	0230606	CD	3.3PF	±10%	50V
C703R	0230606	CD	3.3PF	±10%	50V
C704L	02528252	EL	47 μF	±20%	50V
C704R	02528252	EL	47 μF	±20%	50V
C705	02528212	EL	10 μF	±20%	50V
C706	1252831	EL	100 μF	±20%	50V
C707	0240039	CC	330PF	±10%	50V
C708L	02528132	EL	3.3 μF	±20%	50V
C708R	02528132	EL	3.3 μF	±20%	50V
C709L	0240041	CC	470PF	±10%	50V
C709R	0240041	CC	470PF	±10%	50V
C710L	0240039	CC	330PF	±10%	50V
C710R	0240039	CC	330PF	±10%	50V
C711L	02528132	EL	3.3 μF	±20%	50V
C711R	02528132	EL	3.3 μF	±20%	50V
C712L	0230606	CD	3.3PF	±10%	50V
C712R	0230606	CD	3.3PF	±10%	50V
C713L	02528252	EL	47 μF	±20%	50V
C713R	02528252	EL	47 μF	±20%	50V
C714	02528212	EL	10 μF	±20%	50V
C715	1252831	EL	100 μF	±20%	50V
C716L	02522312	EL	100 μF	±20%	6.3V
C716R	02522312	EL	100 μF	±20%	6.3V
C717L	02760112	PP	0.1 μF	±10%	50V
C717R	02760112	PP	0.1 μF	±10%	50V

SYMBOL No.	PART No.	DESCRIPTION			
C718L	02760112	PP	0.1 μF	±10%	50V
C718R	02760112	PP	0.1 μF	±10%	50V
C719L	02760112	PP	0.1 μF	±10%	50V
C719R	02760112	PP	0.1 μF	±10%	50V
C720L	02760112	PP	0.1 μF	±10%	50V
C720R	02760112	PP	0.1 μF	±10%	50V
C721	02522312	EL	100 μF	±20%	6.3V
C722	02528112	EL	1.0 μF	±20%	50V
C723	02528152	EL	4.7 μF	±20%	50V
C724	02523232	EL	33 μF	±20%	10V
C725	02441735	CD	0.022 μF	+80 −20%	50V
C726L	02528132	EL	3.3 μF	±20%	50V
C726R	02528132	EL	3.3 μF	±20%	50V
C727	02525212	EL	10 μF	±20%	16V
C728	02525212	EL	10 μF	±20%	16V
C729L	0244171	CD	0.01 μF [for ZS]	+80 −20%	50V
C729R	0244171	CD	0.01 μF [for ZS]	+80 −20%	50V
C730L	0244171	CD	0.01 μF [for ZS]	+80 −20%	50V
C730R	0244171	CD	0.01 μF [for ZS]	+80 −20%	50V
C731L	0244171	CD	0.01 μF [for ZS]	+80 −20%	50V
C731R	0244171	CD	0.01 μF [for ZS]	+80 −20%	50V
C732	1276511	MF	0.1 μF	±10%	100V
C733	1276511	MF	0.1 μF	±10%	100V
C734	1252831	EL	100 μF	±20%	50V
C735	02760112	MF	0.1 μF	±10%	50V
C736L	02528132	EL	3.3 μF	±20%	50V
C736R	02528132	EL	3.3 μF	±20%	50V
C739	0240066	CC	0.022 μF [for ZS]	+80 −20%	16V
C801	02599982	EL	5600 μF	±20%	35V
C802	02599982	EL	5600 μF	±20%	35V
C803	02599982	EL	5600 μF	±20%	35V
C804	02599982	EL	5600 μF	±20%	35V
C805	1276511	MF	0.1 μF [except ZS]	±10%	100V
C806	0245408	CD	0.01 μF	±20%	500V
C807	0245408	CD	0.01 μF	±20%	500V
C808	0245408	CD	0.01 μF	±20%	500V
C809	0245408	CD	0.01 μF	±20%	500V
C810	02525352	EL	470 μF	±20%	16V
C811	02525412	EL	1000 μF	±20%	16V
C813	02525412	EL	1000 μF	±20%	16V
C814	02441735	CD	0.022 μF	+80 −20%	50V
C815	02441735	CD	0.022 μF	+80 −20%	50V
C817	02441735	CD	0.022 μF	+80 −20%	50V
C818	02526252	EL	47 μF	±20%	25V
C820	02526252	EL	47 μF	±20%	25V
C821	02525212	EL	10 μF	±20%	16V
C822	02525212	EL	10 μF	±20%	50V
C823	1252831	EL	100 μF	±20%	50V
C824	02441735	CD	0.022 μF	+80 −20%	50V
C825	02528252	EL	47 μF	±20%	50V
C826	0240045	CC	1000PF	+80 −20%	50V
C827	02525352	EL	470 μF	±20%	16V
C828	0240061	CC	0.01 μF	±30%	16V
C829	0240061	CC	0.01 μF	±30%	16V

SYMBOL No.	PART No.	DESCRIPTION			
C830	02760112	PP	0.1 μF	±10%	50V
C831	0240061	CC	0.01 μF	±30%	16V
C832	0240061	CC	0.01 μF	±30%	16V
C833	02760112	PP	0.1 μF	±10%	50V
C834	0240220	CD	0.047 μF	±10%	25V
C835	0240220	CD	0.047 μF	±10%	25V
C837	0240061	CC	0.01 μF	±30%	16V
C838	0240061	CC	0.01 μF	±30%	16V
C901L	02097212	CD	330PF	±10%	50V
C901R	02097212	CD	330PF	±10%	50V
C902L	02097212	CD	330PF	±10%	50V
C902R	02097212	CD	330PF	±10%	50V
C903L	02097212	CD	330PF	±10%	50V
C903R	02097212	CD	330PF	±10%	50V
C904L	02097212	CD	330PF	±10%	50V
C904R	02097212	CD	330PF	±10%	50V
C905L	02522312	EL	100 μF	±20%	6.3V
C905R	02522312	EL	100 μF	±20%	6.3V
C906L	02750342	MF	0.039 μF	±10%	50V
C906R	02750342	MF	0.039 μF	±10%	50V
C907	02525222	EL	22 μF	±20%	16V
C908L	02091732	CD	0.022 μF	+80 −20%	50V
C908R	02091732	CD	0.022 μF	+80 −20%	50V
C909	02525222	EL	22 μF	±20%	16V
C910L	02528132	EL	3.3 μF	±20%	50V
C910R	02528132	EL	3.3 μF	±20%	50V
C911	02525252	EL	47 μF	±20%	16V
C912	02522312	EL	100 μF	±20%	6.3V
C913L	0240051	CC	1500PF	±20%	16V
C913R	0240051	CC	1500PF	±20%	16V
C914L	02528132	EL	3.3 μF	±20%	50V
C914R	02528132	EL	3.3 μF	±20%	50V
C915L	0240057	CC	4700PF	±30%	16V
C915R	0240057	CC	4700PF	±30%	16V
C918L	0240045	CC	1000PF	±10%	50V
C918R	0240045	CC	1000PF	±10%	50V
C919L	02528132	EL	3.3 μF	±20%	50V
C919R	02528132	EL	3.3 μF	±20%	50V
C920	02525312	EL	100 μF	±20%	16V
C921	02525312	EL	100 μF	±20%	16V
C922L	02528072	EL	0.68 μF	±20%	50V
C922R	02528072	EL	0.68 μF	±20%	50V
C923L	02528132	EL	3.3 μF	±20%	50V
C923R	02528132	EL	3.3 μF	±20%	50V
C924L	02528132	EL	3.3 μF	±20%	50V
C924R	02528132	EL	3.3 μF	±20%	50V
C925L	0240053	CC	2200PF	±20%	16V
C925R	0240053	CC	2200PF	±20%	16V
C926L	02528032	EL	0.33 μF	±20%	50V
C926R	02528032	EL	0.33 μF	±20%	50V
C927L	02740162	MF	0.0068 μF	±10%	50V
C927R	02740162	MF	0.0068 μF	±10%	50V
C928L	02750122	MF	0.015 μF	±10%	50V
C928R	02750122	MF	0.015 μF	±10%	50V
C929L	0209723	CD	470PF	±10%	50V
C929R	0209723	CD	470PF	±10%	50V
C930L	02750132	MF	0.015 μF	±10%	50V
C930R	02750132	MF	0.015 μF	±10%	50V
C931L	02750122	MF	0.015 μF	±5%	50V
C931R	02750122	MF	0.015 μF	±10%	50V
C935L	0240035	CD	150PF	±10%	50V

SYMBOL No.	PART No.	DESCRIPTION
C935R	0240035	CD 150PF ±10% 50V
C936L	02528132	EL 3.3 μF ±20% 50V
C936R	02528132	EL 3.3 μF ±20% 50V
C937	02740162	MF 6800PF ±10% 50V
C938	02750122	MF 0.015 μF ±10% 50V
C939	02525252	EL 47 μF ±20% 16V
C940	0279321	PP 0.015 μF ±5% 100V
C941	1279337	MF 0.0015 μF ±5% 100V [for BS, ES, VS]
C942	0240045	CC 1000PF ±10% 50V
C943L	0240039	CC 330PF ±10% 50V
C943R	0240039	CC 330PF ±10% 50V
C944L	02528132	EL 3.3 μF ±20% 50V
C944R	02528132	EL 3.3 μF ±20% 50V
C945	02091752	CD 0.047 μF $^{+80}_{-20}$% 50V
C946	02528152	EL 4.7 μF ±20% 50V
C947	02525212	EL 10 μF ±20% 16V
C948	02525222	EL 22 μF ±20% 16V
C949L	0240037	CC 220PF ±10% 50V
C949R	0240037	CC 220PF ±10% 50V
C950	0240041	CC 470PF ±10% 50V
RESISTORS		
R001	0139005	CF 2.7MΩ ±10% 1/2W [for CB]
R101	0113591	CF 100Ω ±5% 1/6W [for ZS]
R102	0113663	CF 100KΩ ±5% 1/6W
R104	0113663	CF 100KΩ ±5% 1/6W [for ZS]
R105	0113617	CF 1.2KΩ ±5% 1/6W [for ZS]
R106	0113639	CF 10KΩ ±5% 1/6W [for ZS]
R107	0113663	CF 100KΩ ±5% 1/6W
R109	0113591	CF 100Ω ±5% 1/6W [for ZS]
R110	0113583	CF 47Ω ±5% 1/6W
R152	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R153	0113639	CF 10KΩ ±5% 1/6W
R154	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R155	0113671	CF 220KΩ ±5% 1/6W
R156	0113663	CF 100KΩ ±5% 1/6W [for BS, ES, VS]
R157	0113671	CF 220KΩ ±5% 1/6W [for BS, ES, VS]
R158	0113623	CF 2.2KΩ ±5% 1/6W [for BS, ES, VS]
R159	0113631	CF 4.7KΩ ±5% 1/6W [for BS, ES, VS]
R201	0113603	CF 330Ω ±5% 1/6W [except ZS]
R202	0113603	CF 330Ω ±5% 1/6W
R203	0113623	CF 2.2KΩ ±5% 1/6W
R204	0113605	CF 390Ω ±5% 1/6W
R205	0113617	CF 1.2KΩ ±5% 1/6W
R214	0113663	CF 100KΩ ±5% 1/6W
R215	0113659	CF 68KΩ ±5% 1/6W
R216	0113615	CF 1.0KΩ ±5% 1/6W

SYMBOL No.	PART No.	DESCRIPTION
R217	0113639	CF 10KΩ ±5% 1/6W
R218	0113639	CF 10KΩ ±5% 1/6W
R219	0113639	CF 10KΩ ±5% 1/6W
R220	0113631	CF 4.7KΩ ±5% 1/6W [except ZS]
R220	0113641	CF 12KΩ ±5% 1/6W [for ZS]
R220	0113637	CF 8.2KΩ ±5% 1/6W
R221	0113591	CF 100KΩ ±5% 1/6W
R222	0113627	CF 3.3KΩ ±5% 1/6W
R223	0113663	CF 100KΩ ±5% 1/6W
R224	0113639	CF 10KΩ ±5% 1/6W [for VS, ZS]
R224	0113647	CF 22KΩ ±5% 1/6W [except VS, ZS]
R225	0113641	CF 12KΩ ±5% 1/6W [for CS]
R225	0113649	CF 27KΩ ±5% 1/6W [except CS]
R226	0113655	CF 47KΩ ±5% 1/6W [for VS, ZS]
R227	0113639	CF 10KΩ ±5% 1/6W
R228	0113639	CF 10KΩ ±5% 1/6W
R229	1119423	ME 150Ω ±10% 1W
R230	0113639	CF 10KΩ ±5% 1/6W
R231	0113635	CF 6.8KΩ ±5% 1/6W [for VS, ZS]
R231	0113649	CF 27KΩ ±5% 1/6W [for CS]
R231	0113643	CF 15KΩ ±5% 1/6W [except VS, ZS, CS]
R232	0113641	CF 12KΩ ±5% 1/6W
R233	0113643	CF 15KΩ ±5% 1/6W
R234	0113655	CF 47KΩ ±5% 1/6W
R235	0113587	CF 68Ω ±5% 1/6W
R236	0113615	CF 1KΩ ±5% 1/6W
R237	0113663	CF 100KΩ ±5% 1/6W
R301	0113651	CF 33KΩ ±5% 1/6W
R302	0113665	CF 120KΩ ±5% 1/6W
R303	0113627	CF 3.3KΩ ±5% 1/6W
R304	0113615	CF 1KΩ ±5% 1/6W
R305	0113651	CF 33KΩ ±5% 1/6W
R306	0113643	CF 15KΩ ±5% 1/6W
R307	0113677	CF 390KΩ ±5% 1/6W
R308	0113655	CF 47KΩ ±5% 1/6W
R309	0113655	CF 47KΩ ±5% 1/6W
R310	0113655	CF 47KΩ ±5% 1/6W [for CS]
R310	0113659	CF 68KΩ ±5% 1/6W [except CS]
R311	0113655	CF 47KΩ ±5% 1/6W [for CS]
R311	0113659	CF 68KΩ ±5% 1/6W [except CS]
R312	0113667	CF 150KΩ ±5% 1/6W [for VS, ZS]
R312	0113671	CF 220KΩ ±5% 1/6W [for CS]
R312	0113673	CF 270KΩ ±5% 1/6W [except CS, VS, ZS]
R313	0113619	CF 1.5KΩ ±5% 1/6W
R314	0113619	CF 1.5KΩ ±5% 1/6W

SYMBOL No.	PART No.	DESCRIPTION
R315	0113633	CF 5.6KΩ ±5% 1/6W
R316	0113633	CF 5.6KΩ ±5% 1/6W
R317	0113665	CF 100KΩ ±5% 1/6W
R318	0113663	CF 100KΩ ±5% 1/6W
R319	0113663	CF 100KΩ ±5% 1/6W
R320	0113663	CF 100KΩ ±5% 1/6W
R321	0113623	CF 2.2KΩ ±5% 1/6W
R322	0113639	CF 10KΩ ±5% 1/6W
R323	0113639	CF 10KΩ ±5% 1/6W
R324	0113639	CF 10KΩ ±5% 1/6W
R325	0113663	CF 100KΩ ±5% 1/6W [for BS, KS, ES]
R326	0113663	CF 100KΩ ±5% 1/6W [for BS, KS, ES]
R327	0113615	CF 1KΩ ±5% 1/6W [for BS, KS, ES]
R328	0113643	CF 15KΩ ±5% 1/6W [for BS, KS, ES]
R351	0113643	CF 15KΩ ±5% 1/6W
R352	0113639	CF 10KΩ ±5% 1/6W
R353	0113615	CF 1KΩ ±5% 1/6W
R354	0113639	CF 10KΩ ±5% 1/6W
R355	0113639	CF 10KΩ ±5% 1/6W
R356	0113575	CF 22Ω ±5% 1/6W
R357	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R358	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R359	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R360	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R361	0113631	CF 4.7KΩ ±5% 1/6W
R362	0113639	CF 10KΩ ±5% 1/6W
R363	0113635	CF 6.8KΩ ±5% 1/6W
R364	0113623	CF 2.2KΩ ±5% 1/6W
R365	0113611	CF 680Ω ±5% 1/6W
R366	0113619	CF 1.5KΩ ±5% 1/6W
R367	0113635	CF 6.8KΩ ±5% 1/6W [for BS, ES, VS]
R368	0113635	CF 6.8KΩ ±5% 1/6W [for BS, ES, VS]
R369	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R370	0113615	CF 1KΩ ±5% 1/6W
R372	0113631	CF 4.7KΩ ±5% 1/6W
R401L	0113615	CF 1KΩ ±5% 1/6W
R401R	0113615	CF 1KΩ ±5% 1/6W
R402L	0113615	CF 1KΩ ±5% 1/6W
R402R	0113615	CF 1KΩ ±5% 1/6W
R403L	0113615	CF 1KΩ ±5% 1/6W
R403R	0113615	CF 1KΩ ±5% 1/6W
R404L	0113623	CF 2.2KΩ ±5% 1/6W [except ZS]
R404L	0113627	CF 3.3KΩ ±5% 1/6W [for ZS]
R404R	0113623	CF 2.2KΩ ±5% 1/6W [except ZS]
R404R	0113627	CF 3.3KΩ ±5% 1/6W [for ZS]
R405L	0113655	CF 47KΩ ±5% 1/6W

SYMBOL No.	PART No.	DESCRIPTION
R405R	0113655	CF 47KΩ ±5% 1/6W
R406L	0113611	CF 680Ω ±5% 1/6W
R406R	0113611	CF 680Ω ±5% 1/6W
R407L	0113673	CF 270KΩ ±5% 1/6W
R407R	0113673	CF 390KΩ ±5% 1/6W
R408L	0113651	CF 33KΩ ±5% 1/6W
R408R	0113651	CF 33KΩ ±5% 1/6W
R409L	0113661	CF 82KΩ ±5% 1/6W
R409R	0113661	CF 82KΩ ±5% 1/6W
R410	0113621	CF 1.8KΩ ±5% 1/6W
R411L	0113663	CF 100KΩ ±5% 1/6W
R411R	0113663	CF 100KΩ ±5% 1/6W
R413L	0113663	CF 100KΩ ±5% 1/6W
R413R	0113663	CF 100KΩ ±5% 1/6W
R414L	0113631	CF 4.7KΩ ±5% 1/6W
R414R	0113631	CF 4.7KΩ ±5% 1/6W
R415L	0113615	CF 1KΩ ±5% 1/6W
R415R	0113615	CF 1KΩ ±5% 1/6W
R421L	0113627	CF 4.7KΩ ±5% 1/6W
R421R	0113627	CF 4.7KΩ ±5% 1/6W
R422L	0113663	CF 100KΩ ±5% 1/6W
R422R	0113663	CF 100KΩ ±5% 1/6W
R423L	0113673	CF 47KΩ ±5% 1/6W
R423R	0113673	CF 47KΩ ±5% 1/6W
R424L	0113627	CF 3.3KΩ ±5% 1/6W
R424R	0113627	CF 3.3KΩ ±5% 1/6W
R425	0113639	CF 10KΩ ±5% 1/6W
R426	0113647	CF 22KΩ ±5% 1/6W
R427	0113595	CF 150Ω ±5% 1/6W
R450	0113295	CF 470Ω ±5% 1/2W
R451	0113295	CF 470Ω ±5% 1/2W
R501	0113615	CF 1KΩ ±5% 1/6W
R502	0113615	CF 1KΩ ±5% 1/6W
R503	0113615	CF 1KΩ ±5% 1/6W
R504	0113615	CF 1KΩ ±5% 1/6W
R505	0113655	CF 47KΩ ±5% 1/6W
R506	0113655	CF 47KΩ ±5% 1/6W
R507	0113647	CF 22KΩ ±5% 1/6W
R508	0113663	CF 100KΩ ±5% 1/6W
R509	0113647	CF 22KΩ ±5% 1/6W
R510	0113639	CF 10KΩ ±5% 1/6W
R511	0113595	CF 150Ω ±5% 1/6W
R512	0113615	CF 1KΩ ±5% 1/6W
R513	0113639	CF 10KΩ ±5% 1/6W
R514	0113663	CF 100KΩ ±5% 1/6W
R515	0113583	CF 47Ω ±5% 1/6W
R516	0113583	CF 47Ω ±5% 1/6W
R517	0113657	CF 56KΩ ±5% 1/6W
R518	0113603	CF 330Ω ±5% 1/6W
R519	0113603	CF 330Ω ±5% 1/6W
R520	0113639	CF 10KΩ ±5% 1/6W
R521	0113603	CF 330Ω ±5% 1/6W
R522	0113603	CF 330Ω ±5% 1/6W
R523	0113615	CF 1KΩ ±5% 1/6W
R525	0113655	CF 47KΩ ±5% 1/6W
R526	0113639	CF 10KΩ ±5% 1/6W
R527	0113639	CF 10KΩ ±5% 1/6W
R528	0113651	CF 33KΩ ±5% 1/6W
R529	0113651	CF 33KΩ ±5% 1/6W
R551	0113663	CF 100KΩ ±5% 1/6W
R552	0113651	CF 33KΩ ±5% 1/6W

SYMBOL No.	PART No.	DESCRIPTION
R553	0113663	CF 100KΩ ±5% 1/6W
R554	0113663	CF 100KΩ ±5% 1/6W
R555	1119611	ME 68Ω ±10% 3W
R556	0113639	CF 10KΩ ±5% 1/6W [for EW]
R557	0113603	CF 330Ω ±5% 1/6W
R558	0113623	CF 2.2KΩ ±5% 1/6W [for EW]
R559	0113623	CF 2.2KΩ ±5% 1/6W [for CS]
R560	0113663	CF 100KΩ ±5% 1/6W
R561	0113663	CF 100KΩ ±5% 1/6W
R562	0113663	CF 100KΩ ±5% 1/6W
R563	0113655	CF 47KΩ ±5% 1/6W
R564	0113623	CF 2.2KΩ ±5% 1/6W
R565	0113639	CF 10KΩ ±5% 1/6W
R581	0113655	CF 47K ±5% 1/6W
R582	0113639	CF 10K ±5% 1/6W
R583	0113639	CF 10K ±5% 1/6W
R584	0113639	CF 10K ±5% 1/6W
R585	0113639	CF 10K ±5% 1/6W
R586	0113639	CF 10K ±5% 1/6W
R587	0113615	CF 1K ±5% 1/6W
R588	0113639	CF 10K ±5% 1/6W
R589	0113639	CF 10K ±5% 1/6W
R590	0113639	CF 10K ±5% 1/6W
R591	0113615	CF 1K ±5% 1/6W
R592	0129617	CF 4.7K ±5% 1/4W
R593	0129617	CF 4.7K ±5% 1/4W
R594	0129617	CF 4.7K ±5% 1/4W
R595	0129617	CF 4.7K ±5% 1/4W
R596	0113639	CF 10K ±5% 1/6W
R602L	0113657	CF 56KΩ ±5% 1/6W
R602R	0113657	CF 56KΩ ±5% 1/6W
R603	0113657	CF 56KΩ ±5% 1/6W
R604	0113657	CF 56KΩ ±5% 1/6W
R605	0113655	CF 47KΩ ±5% 1/6W
R606	0113631	CF 4.7KΩ ±5% 1/6W
R607	0113609	CF 560Ω ±5% 1/6W
R608	0113613	CF 820Ω ±5% 1/6W
R609	0129601	CF 1KΩ ±5% 1/4W
R611L	0113615	CF 1KΩ ±5% 1/6W
R611R	0113615	CF 1KΩ ±5% 1/6W
R612L	0113639	CF 10KΩ ±5% 1/6W
R612R	0113639	CF 10KΩ ±5% 1/6W
R613	0113657	CF 56KΩ ±5% 1/6W
R614	0113663	CF 100KΩ ±5% 1/6W
R615	0113639	CF 10KΩ ±5% 1/6W
R616	0113639	CF 10KΩ ±5% 1/6W
R617	0129561	CF 100KΩ ±5% 1/4W
R618	0113663	CF 100KΩ ±5% 1/6W
R619	0113625	CF 2.7KΩ ±5% 1/6W
R620L	0113639	CF 10KΩ ±5% 1/6W
R620R	0113638	CF 10KΩ ±5% 1/6W
R701L	0113623	CF 2.2KΩ ±5% 1/6W
R701R	0113623	CF 2.2KΩ ±5% 1/6W
R702L	0113611	CF 680Ω ±5% 1/6W
R702R	0113611	CF 680KΩ ±5% 1/6W
R703L	0129609	CF 2.2KΩ ±5% 1/4W
R703R	0129609	CF 2.2KΩ ±5% 1/6W
R704L	0129609	CF 2.2KΩ ±5% 1/6W

SYMBOL No.	PART No.	DESCRIPTION
R704R	0129609	CF 2.2KΩ ±5% 1/6W
⚠R705	1110621	FR 100Ω ±5% 1/4W
⚠R706	1110605	FR 22Ω ±5% 1/4W
R707L	0113657	CF 56KΩ ±5% 1/6W
R707R	0113657	CF 56KΩ ±5% 1/6W
R708	0129579	CF 560Ω ±5% 1/4W
R709	0129635	CF 15KΩ ±5% 1/4W
R710	0113647	CF 22KΩ ±5% 1/6W
R711L	0113657	CF 56KΩ ±5% 1/6W
R711R	0113657	CF 56KΩ ±5% 1/6W
R713L	0113657	CF 56KΩ ±5% 1/6W
R713R	0113657	CF 56KΩ ±5% 1/6W
R714L	0113647	CF 22KΩ ±5% 1/6W
R714R	0113647	CF 22KΩ ±5% 1/6W
⚠R715	1110621	FR 100Ω ±5% 1/4W
⚠R716	1110605	FR 22Ω ±5% 1/4W
R717L	0129609	CF 2.2KΩ ±5% 1/4W
R717R	0129609	CF 2.2KΩ ±5% 1/4W
R718L	0129609	CF 2.2KΩ ±5% 1/4W
R718R	0129609	CF 2.2KΩ ±5% 1/4W
R719L	0113657	CF 56KΩ ±5% 1/6W
R719R	0113657	CF 56KΩ ±5% 1/4W
R720L	0113609	CF 560Ω ±5% 1/6W
R720R	0113609	CF 560Ω ±5% 1/6W
R736L	0129531	CF 10Ω ±5% 1/4W
R736R	0129531	CF 10Ω ±5% 1/4W
R737L	0129531	CF 10Ω ±5% 1/4W
R737R	0129531	CF 10Ω ±5% 1/4W
R738L	0113665	CF 120KΩ ±5% 1/6W
R738R	0113665	CF 120KΩ ±5% 1/6W
R739L	0113665	CF 120KΩ ±5% 1/6W
R739R	0113665	CF 120KΩ ±5% 1/6W
R740L	1119029	ME 4.7Ω ±10% 1W
R740R	1119029	ME 4.7Ω ±10% 1W
R741L	1119029	ME 4.7Ω ±10% 1W
R741R	1119029	ME 4.7Ω ±10% 1W
R742	01132962	CF 560Ω ±5% 1/2W
R743	01132962	CF 560Ω ±5% 1/2W
R744	0113657	CF 56KΩ ±5% 1/6W
R745	0129631	CF 10KΩ ±5% 1/4W
R746	0113639	CF 10KΩ ±5% 1/6W
R747L	0113615	CF 1KΩ ±5% 1/6W
R747R	0113615	CF 1K ±5% 1/6W
R748L	0113655	CF 47KΩ ±5% 1/6W
R748R	0113655	CF 47KΩ ±5% 1/6W
R749L	0113649	CF 27KΩ ±5% 1/6W
R749R	0113649	CF 27KΩ ±5% 1/6W
R750L	0113615	CF 1KΩ ±5% 1/6W
R750R	0113615	CF 1KΩ ±5% 1/6W
R751L	0129549	CF 56Ω ±5% 1/4W
R751R	0129549	CF 56Ω ±5% 1/4W
R752	0113663	CF 100KΩ ±5% 1/6W
R753L	0113657	CF 56KΩ ±5% 1/6W
R753R	0113657	CF 56KΩ ±5% 1/6W
R754	0129579	CF 560Ω ±5% 1/4W
R755	0129635	CF 15KΩ ±5% 1/4W
R757	0113639	CF 10KΩ ±5% 1/6W
R758	0113639	CF 10KΩ ±5% 1/6W
R759	0113623	CF 2.2KΩ ±5% 1/6W
R760L	0113639	CF 10KΩ ±5% 1/6W
R760L	0113639	CF 10KΩ ±5% 1/6W

SYMBOL No.	PART No.	DESCRIPTION
R761L	0113639	CF 10KΩ ±5% 1/6W
R761R	0113639	CF 10KΩ ±5% 1/6W
R762L	0113639	CF 10KΩ ±5% 1/6W
R762R	0113639	CF 10KΩ ±5% 1/6W
R801	1119141	ME 6.8Ω ±5% 2W
⚠R802	1110625	FR 220Ω ±5% 1/4W
R803	0113629	CF 3.9KΩ ±5% 1/6W
R804	0113615	CF 1KΩ ±5% 1/6W
R809	0113615	CF 1KΩ ±5% 1/6W
R810	0113627	CF 3.3KΩ ±5% 1/6W
⚠R811	1110609	FR 47Ω ±5% 1/4W
R812	0113639	CF 10KΩ ±5% 1/6W
R813	0113639	CF 10KΩ ±5% 1/6W
R814	0113655	CF 47KΩ ±5% 1/6W
R815	0113647	CF 22KΩ ±5% 1/6W
R816	0113639	CF 10KΩ ±5% 1/6W
R817	0113639	CF 10KΩ ±5% 1/6W
R819	0113639	CF 10KΩ ±5% 1/6W
R820	0113647	CF 22KΩ ±5% 1/6W
R821	0113639	CF 10KΩ ±5% 1/6W
R822	0113647	CF 22KΩ ±5% 1/6W
R823	0113647	CF 22KΩ ±5% 1/6W
R824	0113647	CF 22KΩ ±5% 1/6W
R825	0113611	CF 680Ω ±5% 1/6W
R826	0113615	CF 1KΩ ±5% 1/6W
R827	0113639	CF 10KΩ ±5% 1/6W
R828	0113631	CF 4.7KΩ ±5% 1/6W
R831	1119041	ME 10Ω ±10% 1W
R832	1119041	CF 10Ω ±10% 1W
R833	0129601	CF 1KΩ ±5% 1/4W [except CS]
R835	0129601	CF 1KΩ ±5% 1/4W
⚠R837	1110621	FR 100Ω ±5% 1/4W
R838	0113625	CF 2.7KΩ ±5% 1/6W
R901L	0113663	CF 100KΩ ±5% 1/6W
R901R	0113663	CF 100KΩ ±5% 1/6W
R902L	0113663	CF 100KΩ ±5% 1/6W
R902R	0113663	CF 100KΩ ±5% 1/6W
R903L	0113577	CF 27Ω ±5% 1/6W
R903R	0113577	CF 27Ω ±5% 1/6W
R904L	0113663	CF 100KΩ ±5% 1/6W
R904R	0113663	CF 100KΩ ±5% 1/6W
R905L	0113627	CF 3.3KΩ ±5% 1/6W
R905R	0113627	CF 3.3KΩ ±5% 1/6W
R906L	0113623	CF 2.2KΩ ±5% 1/6W
R906R	0113623	CF 2.2KΩ ±5% 1/6W
R907L	0113627	CF 3.3KΩ ±5% 1/6W
R907R	0113627	CF 3.3KΩ ±5% 1/6W
R908	0113651	CF 33KΩ ±5% 1/6W
R909	0113651	CF 33KΩ ±5% 1/6W
R910	0113625	CF 2.7KΩ ±5% 1/6W
R911	0113651	CF 33KΩ ±5% 1/6W
R912	0113639	CF 10KΩ ±5% 1/6W
R913L	0113639	CF 10KΩ ±5% 1/6W
R913R	0113639	CF 10KΩ ±5% 1/6W
R914L	0113651	CF 33KΩ ±5% 1/6W
R914R	0113651	CF 33KΩ ±5% 1/6W
R915L	0113639	CF 10KΩ ±5% 1/6W
R915R	0113639	CF 10KΩ ±5% 1/6W
R916	0113651	CF 33KΩ ±5% 1/6W
R917	0113639	CF 10KΩ ±5% 1/6W
R918L	0113639	CF 10KΩ ±5% 1/6W
R918R	0113639	CF 10KΩ ±5% 1/6W
R919L	0113623	CF 2.2KΩ ±5% 1/6W
R919R	0113623	CF 2.2KΩ ±5% 1/6W
R920L	0113619	CF 1.5KΩ ±5% 1/6W
R290R	0113619	CF 1.5KΩ ±5% 1/6W
R921	0113639	CF 10KΩ ±5% 1/6W
R922L	0113663	CF 100KΩ ±5% 1/6W
R922R	0113663	CF 100KΩ ±5% 1/6W
R923	1119425	ME 220Ω ±10% 1W
R924L	0113633	CF 5.6KΩ ±5% 1/6W
R924R	0113633	CF 5.6KΩ ±5% 1/6W
R925	0113641	CF 12KΩ ±5% 1/6W
R926	0113639	CF 10KΩ ±5% 1/6W
R927L	0113641	CF 12KΩ ±5% 1/6W
R927R	0113641	CF 12KΩ ±5% 1/6W
R928	0113651	CF 33KΩ ±5% 1/6W
R929	0113639	CF 10KΩ ±5% 1/6W
R930	0113639	CF 10KΩ ±5% 1/6W
R931L	0113641	CF 12KΩ ±5% 1/6W
R931R	0113641	CF 12KΩ ±5% 1/6W
R932L	0113635	CF 6.8KΩ ±5% 1/6W
R932R	0113635	CF 6.8KΩ ±5% 1/6W
R933L	0113647	CF 22KΩ ±5% 1/6W
R933R	0113647	CE 22KΩ ±5% 1/6W
R934L	0113619	CF 1.5KΩ ±5% 1/6W
R934R	0113619	CF 1.5KΩ ±5% 1/6W
R935L	01135852	CF 56Ω ±5% 1/6W
R935R	01135852	CF 56Ω ±5% 1/6W
R936L	0113635	CF 6.8KΩ ±5% 1/6W
R936R	0113635	CF 6.8KΩ ±5% 1/6W
R937L	0113623	CF 2.2KΩ ±5% 1/6W
R937R	0113623	CF 2.2KΩ ±5% 1/6W
R938L	0113613	CF 820Ω ±5% 1/6W
R938R	0113613	CF 820Ω ±5% 1/6W
R939L	0113619	CF 1.5KΩ ±5% 1/6W
R939R	0113619	CF 1.5KΩ ±5% 1/6W
R940L	0113627	CF 3.3KΩ ±5% 1/6W
R940R	0113627	CF 3.3KΩ ±5% 1/6W
R941	0113639	CF 10KΩ ±5% 1/6W
R942	0113661	CF 82KΩ ±5% 1/6W
R943	0113661	CF 82KΩ ±5% 1/6W
R944	0113639	CF 10KΩ ±5% 1/6W
R945	0113639	CF 10KΩ ±5% 1/6W
R946	0113289	CF 150Ω ±5% 1/2W
R948	0113294	CF 390Ω ±5% 1/2W
R949	0113649	CF 27KΩ ±5% 1/6W
R950	0113567	CF 10Ω ±5% 1/6W
R951	0113591	CF 100Ω ±5% 1/6W [for BS, ES, VS]
R952	0113639	CF 10KΩ ±5% 1/6W [for BS, ES, VS]
R953	0113639	CF 10KΩ ±5% 1/6W
R954L	0113673	CF 270KΩ ±5% 1/6W
R954R	0113673	CF 270KΩ ±5% 1/6W
R955L	0113653	CF 39KΩ ±5% 1/6W
R955R	0113653	CF 39KΩ ±5% 1/6W
R957L	0113639	CF 10KΩ ±5% 1/6W
R957R	0113639	CF 10KΩ ±5% 1/6W
R958L	0113635	CF 6.8KΩ ±5% 1/6W
R958R	0113635	CF 6.8KΩ ±5% 1/6W
R959L	0113631	CF 4.7KΩ ±5% 1/6W
R959R	0113631	CF 4.7KΩ ±5% 1/6W
R960L	0113663	CF 100KΩ ±5% 1/6W
R960R	0113663	CF 100KΩ ±5% 1/6W
R961	0113639	CF 10KΩ ±5% 1/6W
R962L	0113633	CF 5.6KΩ ±5% 1/6W
R962R	0113633	CF 5.6KΩ ±5% 1/6W
R963L	0113639	CF 10KΩ ±5% 1/6W
R963R	0113639	CF 10KΩ ±5% 1/6W
R964	0113607	CF 470Ω ±5% 1/6W
R965	0113657	CF 56KΩ ±5% 1/6W
R966	0113639	CF 10KΩ ±5% 1/6W
R967	0113639	CF 10KΩ ±5% 1/6W
R968	0113631	CF 4.7KΩ ±5% 1/6W
R969	0113633	CF 5.6KΩ ±5% 1/6W
R970	0113639	CF 10KΩ ±5% 1/6W
R971	0113647	CF 22KΩ ±5% 1/6W
R972	0113639	CF 10KΩ ±5% 1/6W
R973	0113647	CF 22KΩ ±5% 1/6W
R974	0113639	CF 10KΩ ±5% 1/6W
R975	0113639	CF 10KΩ ±5% 1/6W
R976	0113647	CF 22KΩ ±5% 1/6W
R977	0113633	CF 5.6KΩ ±5% 1/6W
R978	0113637	CF 8.2KΩ ±5% 1/6W
R979	0113627	CF 3.3KΩ ±5% 1/6W
R980	0113631	CF 4.7KΩ ±5% 1/6W
R981	0113613	CF 820Ω ±5% 1/6W
R982	0113639	CF 10KΩ ±5% 1/6W

IC & TRANSISTORS

IC201	23684312	AN278
IC203	23004122	LA1265S
IC301	2387551	μPC1235C
IC351	2385201	LC7218
IC401	2388302	BA4558HT
IC402	2388672	TC9163N
IC403	2388302	BA4558HT
IC404L	23008412	BA3812L
IC404R	23008412	BA3812L
IC501	23018632	MPD75208CW-200
IC581	2387201	TC4528BP
IC601	2388302	BA4558HT
IC701	23011612	STK4142II
IC702	23011612	STK4142II
IC703	2387581	μPC1237H
IC704	2388302	BA4558HT
IC801	23017012	BA6209N
IC802	23017012	BA6209N
IC901	23010522	BA3416BL
IC902	2388302	BA4558HT
IC903	23020912	CXA-1101
IC904	2388302	BA4558HT
IC905	2387051	LB1403L
Q102	2328803	2SK104 [for ZS]
Q103	2328652	2SC1740LN(S [for ZS]
Q151	2328652	2SC1740LN(S [for BS, ES, S]
Q152	2328652	2SC1740LN(S [for BS, ES, S]
Q202	2329183	2SA1015(GR)
Q203	2328652	2SC1740LN(S

SYMBOL No.	PART No.	DESCRIPTION
Q204	2328652	2SC1740LN(S)
Q205	2328652	2SC1740LN(S)
Q301	2328652	2SC1740LN(S)
Q302	2328652	2SC1740LN(S)
Q303	2328652	2SC1740LN(S)
Q304	2329183	2SA1015(GR)
Q305	2328652	2SC1740LN(S)
Q351	2329183	2SA1015(GR)
Q352	2329183	2SA1015(GR)
		[for BS, ES, VS]
Q353	2329183	2SA1015(GR)
		[for BS, ES, VS]
Q354	2329183	2SA1015(GR)
Q355	2328653	2SC1740LN(E)
Q356	2328653	2SC1740LN(E)
Q357	2328653	2SC1740LN(E)
		[for BS, ES, VS]
Q358	2328653	2SC1740LN(E)
		[for BS, ES, VS]
Q401	2328652	2SC1740LN(S)
Q501	2328652	2SC1740LN(S)
Q502	2328652	2SC1740LN(S)
Q503	2329183	2SA1015(GR)
Q504	2328652	2SC1740LN(S)
Q551	2328652	2SC1740LN(S)
Q552	2328652	2SC1740LN(S)
Q553	2328652	2SC1740LN(S)
Q554	2328652	2SC1740LN(S)
Q555	2328652	2SC1740LN(S)
Q581	2328652	2SC1740LN(S)
Q582	2328652	2SC1740LN(S)
Q583	2328652	2SC1740LN(S)
Q584	2328652	2SC1740LN(S)
Q585	2328652	2SC1740LN(S)
Q586	2329183	2SA1015(GR)
Q587	2328652	2SC1740LN(S)
Q588	2328652	2SC1740LN(S)
Q589	2328652	2SC1740LN(S)
Q590	2328652	2SA1015(GR)
Q591	2328652	2SC1740LN(S)
Q592	2328625	2SB647C
Q593	2328625	2SB647(C)
Q601	2328652	2SC1740LN(S)
Q602	2328652	2SC1740LN(S)
Q704	2328652	2SC1740LN(S)
Q801	2317822	2SD880(Y)
Q802	2328652	2SC1740LN(S)
Q803	2317822	2SD880(Y)
Q805	2328625	2SB647(C)
Q806	2329183	2SA1015(GR)
Q807	2328652	2SC1740LN(S)
Q808	2328652	2SC1740LN(S)
Q809	2328625	2SB647(C)
Q811	2328625	2SB647(C)
Q812	2329183	2SA1015(GR)
Q813	2328652	2SC1740LN(S)
Q814	2328652	2SC1740LN(S)
Q816	2328652	2SC1740LN(S)
Q901L	2328652	2SC1740LN(S)
Q901R	2328652	2SC1740LN(S)
Q902	2328652	2SC1740LN(S)
Q903L	2328652	2SC1740LN(S)
Q903R	2328652	2SC1740LN(S)
Q904	2328652	2SC1740LN(S)
Q905L	2328652	2SC1740LN(S)
Q905R	2328652	2SC1740LN(S)
Q906L	2328652	2SC1740LN(S)
Q906R	2328652	2SC1740LN(S)
Q907L	2328652	2SC1740LN(S)
Q907R	2328652	2SC1740LN(S)
Q908L	2328652	2SC1740LN(S)
Q908R	2328652	2SC1740LN(S)
Q909	2317782	2SC2235(Y)
Q910	2328652	2SC1740LN(S)
		[for BS, ES, VS]
Q911	2329183	2SA1015(GR)
Q912	2328652	2SC1740LN(S)
Q913	2328652	2SC1740LN(S)
Q914	2328652	2SC1740LN(S)
Q915	2328652	2SC1740LN(S)
Q916L	2328652	2SC1740LN(S)
Q916R	2328652	2SC1740LN(S)
Q917L	2328652	2SC1740LN(S)
Q917R	2328652	2SC1740LN(S)

DIODES

SYMBOL No.	PART No.	DESCRIPTION
D101	2337601	1S2473
D102	2337601	1S2473
D103	2337931	1K60R
		[for ZS]
D104	2337931	1K60R
		[for ZS]
D151	2337601	1S2473
D152	2337601	1S2473
D153	2397321	KV1260
D154	2397321	KV1260
		[for BS, ES, VS]
D155	2337601	1S2473
		[for BS, ES, VS]
D156	2337601	1S2473
		[for BS, ES, VS]
D157	2337601	1S2473
		[for BS, ES, VS]
D158	2337601	1S2473
		[for BS, ES, VS]
D159	2337601	1S2473
		[for BS, ES, VS]
D160	23376162	HZ-3(B3)
D301	2337601	1S2473
D351	2337601	1S2473
D352	2337601	1S2473
D501	2337601	1S2473
D502	23371222	HZ-6(B)
D503	23375272	HZ-9(C1)
D504	2337601	1S2473
D505	2337601	1S2473
D506	2337601	1S2473
D507	2337601	1S2473
D508	2337601	1S2473
D509	2337601	1S2473
D510	2337601	1S2473
D511	2337601	1S2473
D512	2337601	1S2473
D513	2337601	1S2473
D514	2337601	1S2473
D515	2337601	1S2473
D516	2337601	1S2473
D517	2337601	1S2473
		[for CS]
D528	2337601	1S2473
D529	2337601	1S2473
D530	2337601	1S2473
D531	2337601	1S2473
D532	2337601	1S2473
D551	23374312	HZ-3(A)
D552	23375272	HZ-9(C1)
D553	23375272	HZ-9(C1)
D581	2337601	1S2473
D582	2337601	1S2473
D583	2337601	1S2473
D584	2337601	1S2473
D701	23390012	DS135D(F)
D702	23390012	DS135D(F)
D707	2337601	1S2473
D708	2337601	1S2473
D709	2337601	1S2473
D710	2337601	1S2473
D711	2398781	11E2
D712	2398781	11E2
D713	2398781	11E2
D714	2398781	11E2
D801	23374612	S4VB20
D802	23374612	S4VB20
D803	2398781	11E2
D804	2398781	11E2
D806	2398781	11E2
D807	2398781	11E2
D808	2398781	11E2
D810	2398781	11E2
D811	2337601	1S2473
D812	2337601	1S2473
D813	2398781	11E2
D814	2398781	11E2
D815	2337601	1S2473
D817	2337601	1S2473
D818	2337601	1S2473
D901	2337601	1S2473
D902	2337601	1S2473
D903	2337601	1S2473
D904	2337601	1S2473
D905	2337601	1S2473
D906	2337601	1S2473
D914	2337601	1S2473
D915	2337601	1S2473
ZD401	2337527	HZ-9(C)
ZD601	23375272	HZ-9(C1)
ZD602	23374312	HZ-3(A)
ZD801	23375632	HZ-12(A3)
ZD804	23386542	RD27E(B4)
ZD805	23375892	HZ-5(C3)
ZD806	23375892	HZ-5(C3)
ZD901	23374312	HZ-3(A)
D518	23391022	SLP-160C

SYMBOL No.	PART No.	DESCRIPTION
D519	23391022	SLP-160C
D522	23391022	SLP-160C
D523	23391022	SLP-160C
D524	23391022	SLP-160C
D525	23391022	SLP-160C
D526	23391022	SLP-160C
D527	23391022	SLP-160C
D601	2398672	SLR-34VC35H3
D602	2398672	SLR-34VC35H3
D603	2398672	SLR-34VC35H3
D604	2398672	SLR-34VC35H3
D605	2398672	SLR-34VC35H3
D606	2398672	SLR-34VC35H3
D907	23391042	SLP-660C
D908	23391042	SLP-660C
D909	23391042	SLP-660C
D910	23391022	SLP-160C
D911	23391022	SLP-160C
D912	23388932	SLP-151B
D913	23388932	SLP-151B
	2347321	SLC-22VR66F
VARIABLE RESISTORS		
R412	0152716	200kΩ (L/R BALANCE CONTROL)
R416	0167011	100kΩ-(B) (G/E CONTROL)
R417	0167011	100kΩ-(B) (G/E CONTROL)
R418	0167011	100kΩ-(B) (G/E CONTROL)
R419	0167011	100kΩ-(B) (G/E CONTROL)
R420	0167011	100kΩ-(B) (G/E CONTROL)
R601L	0189119	100kΩ-(B) (MAIN VOLUME CONTROL)
R601R	0189119	100kΩ-(B) (MAIN VOLUME CONTROL)
R610	0159891	10kΩ-(B) (BASS VOLUME CONTROL)
RT301	0158954	5kΩ-(B)
RT901L	0158924	5kΩ-(B) (REC/PLAY OUTPUT LEVEL ADJ.)
RT901R	0158924	5kΩ-(B) (REC/PLAY OUTPUT LEVEL ADJ.)
RT902L	0158928	100kΩ-(B) (BIAS ADJ.)
RT902R	0158928	100kΩ-(B) (BIAS ADJ.)
RT903	0158924	5kΩ-(B) (TAPE SPEED ADJ.)
RV901L	0150701	10kΩ-(B) (REC VOLUME CONTROL)
RV901R	0150701	10kΩ-(B) (REC VOLUME CONTROL)
COILS & TRANSFORMERS		
L101	2227351	CHOCK COIL
L151	2137373	AM ANT COIL
L152	2137374	AM ANT COIL [for BS, ES, VS]
L153	2136493	MW OSC COIL
L154	2136494	LW OSC COIL [for BS, ES, VS]
L202	2137033	FM DISCRIMINATOR COIL
L301	2227912	CHOCK COIL
L501	2227912	CHOCK COIL
L502	2227912	CHOCK COIL

SYMBOL No.	PART No.	DESCRIPTION
L701L	2227361	AUDIO TRAP COIL
L701R	2227361	AUDIO TRAP COIL
L702L	2227361	AUDIO TRAP COIL
L702R	2227361	AUDIO TRAP COIL
L801	2227912	CHOCK COIL
L802	2227912	CHOCK COIL
L803	2227912	CHOCK COIL
L804	2227912	CHOCK COIL
L901L	2227991	CHOCK COIL
L901R	2227991	CHOCK COIL
L902	2136823	BIAS OSC COIL
T201	2154493	AM IF TRANSFORMER
MISCELLANEOUS		
JK101		FM DIN ANT. [for ZS] FM 75Ω ANT. [except CS, ZS]
JK401	2668014	5P XH PLUG
JK402	2678921	4P US PIN JACK
JK403	2678921	4P US PIN JACK
Jk703	2678494	HEADPHONE JACK
JK801	2678851	1P US PIN JACK
JK701	2689651	4P POSH TERMINAL
JK702	26578312	SPEAKER SOCKET
JK801		CD CONTROL JACK
CP101	2137301	FM LOW-PASS FILTER [for ZS]
CP201	2136313	LOW PASS FILTER [for VS, ZS]
CP301	2136314	LEAK FILTER 19kHz [for VS]
CP302	2136314	LEAK FILTER 19kHz [for VS]
CP501	0241912	CERAMIC CAPACITOR 220P
CP502	0241912	CERAMIC CAPACITOR 220P
CT151	0283125	TRIMMER CAPACITOR [except BS, ES, VS]
CT151	0293126	TRIMMER CAPACITOR (WHITE) [for BS, ES, VS]
CT152	0283127	TRIMMER CAPACITOR (RED) [for BS, ES, VS]
RY701	2647751	DG RELLAY
RY702	2647751	DG RELLAY
FE101	24256712	FM TUNER PACK [except ZS]
FE101	2425731	FM TUNER PACK [for ZS]
FL501	2949061	FIP 88RM8
MF201	2134982	FM CERAMIC FILTER [for CS]
MF201	2135002	CERAMIC FILTER [except CS]
MF202	2135002	CERAMIC FILTER [for SA]
MF204	2134982	FM CERAMIC FILTER [for CS]
MF204	2135002	CERAMIC FILTER [except CS]
MF205	2155152	AM CERAMIC FILTER
X351	27803812	CRYSTAL OSCILLATOR 7.2MHz

SYMBOL No.	PART No.	DESCRIPTION
X501	2155323	CERAMIC OSCILLATOR 4.19MHz
⚠F001	2727744	BS FUSE TIME LUG [except CS, EW]
⚠F001	2727894	FUSE-UL 4A 125V [for CS]
⚠F801	2727745	BS FUSE [except CS]
⚠F801	2727961	FUSE 2A 125V [for CS]
⚠PR801	2728184	FUSE 0.5A
LC901L	2136791	BIAS TRAP 85K
LC901R	2136791	BIAS TRAP 85K
LC902L	2228103	DOLBY FILTER
LC902R	2228103	DOLBY FILTER
⚠S001	2600152	POWER SWITCH
S501	2639682	DECK SWITCH (CH1)
S502	2639682	DECK SWITCH (CH2)
S503	2639682	DECK SWITCH (CH3)
S504	2639682	DECK SWITCH (CH4)
S505	2639682	DECK SWITCH (CH5)
S506	2639682	DECK SWITCH (CH6)
S507	2639682	DECK SWITCH (CH7)
S508	2639682	DECK SWITCH (CH8)
S509	2639682	DECK SWITCH (CH9)
S510	2639682	DECK SWITCH (CH10)
S511	2639682	DECK SWITCH (+10)
S512	2639682	DECK SWITCH (MEMO)
S513	2639682	DECK SWITCH (FM)
S514	2639682	DECK SWITCH (MW)
S515	2639682	DECK SWITCH (LW) [for BS, ES, VS]
S516	2639682	DECK SWITCH (A/M)
S517	2639682	DECK SWITCH (TUNER)
S518	2639682	DECK SWITCH (CD)
S519	2639682	DECK SWITCH (PHONO)
S520	2639682	DECK SWITCH (TV/AUX)
S521	2639682	DECK SWITCH (TAPE)
S522	2639682	DECK SWITCH (VTR)
S523	2639682	DECK SWITCH (UP)
S524	2639682	DECK SWITCH (DOWN)
S551	2629381	SLIDE SWITCH (AM SPACING) [for EW]
S601	2600127	PUSH SWITCH 2KEY
S801	2629381	SLIDE SWITCH [for BS, ES, VS]
S901	2628324	SLIDE SWITCH (REC/PLAY SELECT)
S902	2600286	3KEY PUSH SWITCH (TAPE SELECT)
S903	2600284	2KEY PUSH SWITCH (ON/OFF/TAPE SPEED SELECT)
CABINET CHASSIS		
1	4005821	CASSETTE DOOR ASSY (TAPE 1)
2	4005822	CASSETTE DOOR ASSY (TAPE 2)
3	3309221	POWER BOTTON
4	3307201	PUSH BOTTON
5	3309161	REC VOLUME KNOB
6	3308702	VOLUME KNOB
7	3308681	VOLUME HOLDER

SYMBOL No.	PART No.	DESCRIPTION
8	3309251	KNOB (18) IN COLOR
9	3309252	KNOB (18)
10	3308676	FUNCTION
11	3309121	TUNING BOTTON
12	3309112	BAND CHANGE BOTTON [for BS, ES, VS]
	3309114	BAND CHANGE BOTTON [except BS, ES, VS]
13	3309241	BOTTON
14	3309242	BOTTON
15	3909601	BLIND (A)
17	3808813	FRONT PANEL [for CS]
	3808814	FRONT PANEL [except CS]
18	3309231	G/E KNOB
19	4479032	COVER
20	3950381	DANPER SUBASSEMBLY
21	2588921	COUNTER
22	3909671	FILTER
23	3927411	FOOT
24	4479831	SIDE PLATE
25	4479841	REAR PLATE [for CS]
	4479842	REAR PLATE [for BS]
	4479843	REAR PLATE [for KS]
	4479844	REAR PLATE [for ES, VS]
	4479845	REAR PLATE [for ZS]
	4479846	REAR PLATE [for SA]
	4479847	REAR PLATE [for EW]
26	2589441	TN-521ZSW-153 DECK
27	4831623	OPERATION LEVER
28	4831624	B FLAME
29	4819232	LAVER SHAFT SUM-24L
30	4620021	COUNTER BELT
31	3309171	D OPERATION BUTTON
32	3309172	D OPERATION BUTTON
33	3309173	D OPERATION BUTTON
34	3309174	D OPERATION BUTTON
35	3309175	D OPERATION BUTTON
36	3309176	D OPERATION BUTTON
37	3309177	OPERATION BUTTON
38	3309178	OPERATION BUTTON
39	3309179	OPERATION BUTTON
40	3391925	EJECT SPRING
⚠41	2267521	POWER TRANSFORMER [for CS]
⚠	2267522	POWER TRANSFORMER [for KS, ES, VS, ZS]
⚠	2267523	POWER TRANSFORMER [for BS, SA]
⚠	2267524	POWER TRANSFORMER [for EW]
42	2137381	LINE FILTER [for ZS]

SYMBOL No.	PART No.	DESCRIPTION
⚠43	3658372	AC OUTLET [for CS]
44	2618053	AC SWITCH [for EW]
⚠45	2702713	AC POWER SUPPLY CORD [for CS]
⚠	2749582	AC POWER SUPPLY CORD [for BS]
⚠	2718091	AC POWER SUPPLY CORD [for KS, ES, VS, ZS]
⚠	2749622	AC POWER SUPPLY CORD [for SA]
⚠	2706584	AC POWER SUPPLY CORD [for EW]
46	2677911	SOCKET (FM 75) [except CS, ZS]
47	2658391	DIN ANTENNA SOCKET [for ZS]
	3913006	BUSHING [except EW]
	0043793	BUSHING [for EW]
49	8679610	DT SCREW (4 ϕ x 10)
50	8679408	DT SCREW (3 ϕ x 8)
51	86914102	BT SCREW (3 ϕ x 10)
52	8671410	DT SCREW (3 ϕ x 10)
53	8671408	DT SCREW Z (3 ϕ x 8)
54	86714062	BT BIND SCREW (3 ϕ x 6)
55	86994102	BT SCREW BLACK
56	8671608	DT SCREW (4 ϕ x 8)
57	4819072	SCREW (2 ϕ x 8)
58	48191862	TAMS SCREW (2 ϕ x 3)
59	8711104	SCREW PAN HEAD (2 ϕ x 4)
60	86914122	BT SCREW (3 ϕ x 12)
61	2567111	DT SCREW
62	8784446	BT SCREW (3 ϕ x 16)
63	86714062	DT SCREW (3 ϕ x 6)
64	879440	BT SCREW (3 ϕ x 10)
65	47900952	FIBER WASHER
66	4408861	WASHER
67	4575661	EARTH SCREW

ACCESSORIES

	2667922	SIMENSE PLUG [for EW]
	2727745	BS FUSE [for EW]
	2949081	R.C TRANSMITTER RB-MD50
	2758342	AM LOOP ANTENNA
	2757528	FM ANTENNA [except ZS]
	3680521	ANTENNA HOLDER ASS

SYMBOL No.	PART No.	DESCRIPTION
CASSETTE CHASSIS		
1	48191312	PAUSE lever
2	48191322	PAUSE lever spring
3	4842395	Pack spring plate
4	4853652	Auto lever (F)
5	4853653	Auto lever (F) spring
6	4853654	Spring stopper
7	4853655	Auto lever (R)
8	4853656	Auto lever (R) spring
9	4853658	Eject slide lever spring
10	4833465	Special screw
11	4853659	Sub chassis
12	4853650	Turn over arm
13	4853661	Turn over spring
14	4853662	Button base assy
15	4853663	T gear arm (F) assy
16	4853664	T gear arm (F) spring
17	4853665	T cam gear (F)
18	4856321	Eject slide lever
19	4853666	T gear arm (R) assy
20	4853667	T gear arm (R) spring
21	4853668	T cam gear (R)
22	4853669	Slide plate
23	4853660	Lock actuator assy
24	4853671	Lock release spring
25	4853672	SW actuator assy
26	4853674	Button lever spring
27	4853675	PLAY button lever
28	4853676	FF button lever R (S)
29	4853677	FF button lever spring
30	4856322	Mode button (S)
31	4853678	FF button lever F (S)
32	4853679	STOP button lever (S)
33	4853670	Program button lever (S)
34	4853681	Pull arm spring
35	4853682	STOP button lever spring
36	4853683	Relay plate
37	4853684	FF SW plate
38	4853685	R.C. spring
39	4853686	Auto control arm (F)
40	4853687	Control collar
41	4853688	Auto control arm (R)
42	4853689	Head panel
43	4853680	R.C. plate
44	4853691	R.C. plate spring
45	4853692	H.P. collar
46	4853693	Tape guide
47	4853694	Head spring plate
48	2557631	P head
49	4842401	Slide switch
50	4853696	Switch bracket
51	4853697	Pinch roller spring (F)
52	4853698	Pinch roller spring (R)
53	4853699	Pinch roller (F) assy
54	4853690	Pinch roller (R) assy
55	4853701	Reel plate assy
56	4853702	Reel assy
57	4853704	FF gear arm (F) assy
58	4853705	FF gear
59	4853706	FF gear arm (R) assy
60	4853707	FF gear arm collar

SYMBOL No.	PART No.	DESCRIPTION
61	4853708	FF gear arm spring (F)
62	4853709	Flywheel assy
63	4853711	Motor bracket
64	4853712	P kick lever
65	4833463	Lever
66	4833466	Special screw
67	4842404	Motor rubber
68	48195332	Motor collar screw
69	4856323	Belt
70	4853715	P kick lever spring
71	4853716	Lock actuator spring
72	4853717	SW actuator spring
73	4853719	C tapping screw (2 ϕ x 3)
74	48191912	Tapping screw (2 ϕ x 6)
75	4842443	Washer (2.1 ϕ x 5 x 0.5)
76	4853710	Tams screw (2 ϕ x 6)
77	4853721	Camera S tapping screw (1.7 ϕ x 4)
78	4853722	Screw (2 ϕ x 4.5)
79	4842414	Washer (2 ϕ x 3.5 x 0.3)
80	4842430	Washer (2.1 ϕ x 3 x 0.3)
81	4853723	Washer (1.45 ϕ x 4 x 0.5)
82	4842412	Camera S tapping screw (1.7 ϕ x 2.5)
83	4842444	Washer (1.2 ϕ x 3 x 0.25)
84	4853724	Camera S tapping screw (1.7 ϕ x 3)
85	4853725	Washer (3 ϕ x 8.5 x 0.13)
86	4853726	Camera S tapping screw (1.7 ϕ x 8)
87	4856324	Felt
88	4856326	Button flame (S)
89	4856327	Button lever shaft
90	4856328	Screw (2 ϕ x 9)
91	4856672	Motor assy
92	8501744	P washer (1.75 ϕ x 4 x 0.3)
93	4839371	Push button actuator assy
94	4823651	REC button lever
95	4823661	PLAY button lever
96	4823671	REW button lever
97	4823681	FF button lever
98	4823691	STOP button lever
99	4823701	PAUSE button lever
100	48189902	REW lever
101	48191322	PAUSE lever spring
102	48191332	PAUSE stopper
103	48191002	Button lever spring
104	4856320	PAUSE lever
105	48202152	Sub chassis
106	48190072	Button lever spring
107	48202172	PLAY button lever spring
108	4819008	Actuator spring
109	48190092	Auto lever
110	48190002	Auto lever spring
111	48202142	Button lever spring
112	4856331	Leaf switch MSW-1541T
113	4856332	Head panel
114	4842423	Sensing plate assy
115	4832522	Screw
116	48202212	Head panel spring
117	48190062	PR stopper

SYMBOL No.	PART No.	DESCRIPTION
118	48190452	Screw
119	48190172	Spring
120	4839372	Pinch roller arm assy
121	4842424	Pinch roller spring
122	4831610	Metal guide
123	4856333	E.H. spring
124	48537282	RF pulley arm assy
125	48202252	RF pulley arm spring
126	48202262	RF arm collar screw
127	48202272	RF belt
128	4850092	Flywheel
129	4842428	Reel base assy
130	4842429	T gear plate assy
131	4839378	Take up roller gear
132	48190202	TG plate spring
133	4839379	FF gear
134	4842420	Back tension spring
135	4842431	Supply reel assy
136	4853729	Take up reel assy
137	4832421	Record safety lever
138	4839382	Back tension spring
139	48190442	Eject slide lever spring
140	4842433	Bracket
141	4856336	Eject slide lever
142	48202182	Switch actuator spring
143	4842434	Camera tapping screw (2 ϕ x 3.5)
144	4856339	Button flame (S)
145	4856330	Operation lever
146	48190782	Washer (1.55 ϕ x 3.8 x 0.5)
147	48191862	Tams screw (2 ϕ x 3)
148	48190682	Screw tapping
149	48196072	Bind tapping screw (2 ϕ x 5)
150	48190602	Screw (2 ϕ x 7)
151	48196002	Azimuth screw
152	4832431	Tapping bind screw (2 ϕ x 4)
153	4853731	Washer (1.2 ϕ x 3.7 x 0.4)
154	4856329	Screw (2 ϕ x 5)
155	4856342	Screw (2 ϕ x 8)
156	4856345	Spring
157	4853733	RC arm
158	4853734	FF control arm
159	4856344	Screw (2 ϕ x 7)
160	4819554	R/P head
161	2557531	E head
162	4819077	Washer (1.2 ϕ x 3 x 0.4)
163	48189922	Switch plate
164	4832432	Washer (2.05 ϕ x 4 x 0.5)
165	8501746	Main belt
166	8501749	Leaf switch MSW-1275
167	8501741	Leaf switch MSW-1290
168	48191912	P Tapping screw (ϕ 2 x 6)
169	8501740	P Washer CUT (ϕ 2.8 x 6 x 0.5)
170	8501731	Record spring board

PRINTED WIRING BOARD · PRINTPLATTEN · PLAN DE BASE

The circuit symbol (☆) means difference for
Das Schaltkreissymbol (☆) weist auf unterso
Le symbol de circuit (☆) signifie qu'il s'agit

SWITCH P.W.B.

S902 TAPE SELECT SWITCH

S903-2 DOLBY ON/OFF SWITCH

S903-1 TAPE SPEED SELECT SWITCH

RV901 REC VOLUME CONTROL

(Fuse Resistor)

☆	LW	Other
S515	USE	—

☆	EW	Other
S551	USE	—
R558	USE	—

☆	VS, CS	Other
R559	USE	—

☆	CS	VS,XS,BS	ES	SA	EW	ZS
C413LR	—	—	—	—	—	USE
C414LR	—	—	—	—	—	USE
C415LR	—	—	—	—	—	USE
C729LR	—	—	—	—	—	USE
C730LR	—	—	—	—	—	USE
C731LR	—	—	—	—	—	USE
C805	—	USE	USE	USE	USE	USE
R001	USE	—	—	—	—	—

DECK P.W.B.

S901 REC/PLAY SELECT SWITCH

RT902L, R BIAS ADJ.

RT901L, R REC/PLAY OUTPUT LEVEL ADJ.

RT903 TAPE SPEED ADJ.

Pin No.	IC401
1 ~ 3	0
4	−14.4
5 ~ 7	0
8	13.6

Pin No.	IC402
1	−14.2
2~27	0
28	13.5

Pin No.	IC403
1 ~ 3	0
4	−14.4
5 ~ 7	0
8	13.6

Pin No.	IC601
1 ~ 3	0
4	−14.4
5, 6	0
7	0.1
8	13.6

Pin No.	IC704
1 ~ 3	0
4	−14.4
5 ~ 7	0
8	13.6

Pin No.	IC801	Pin No.	IC801
1	0	5.6	0
2	0.5	7.8	12.0
3	0.9	9	0.9
4	1.0	10	0.5

Pin No.	IC802	Pin No.	IC802
1	0	7, 8	12.0
2	0.5	9	0.9
3, 4	0.9	10	0.5
5, 6	0		

Pin No.	IC902
1 ~ 3	0
4	−14.5
5 ~ 7	0
8	13.7

Pin No.	IC904
1 ~ 3	0
4	−14.5
5 ~ 7	0
8	13.7

SWITCH P.W.B. (1)

S601 3 D SYSTEM SWITCH

S602 BTL/ 3 D SELECT SWITCH

LED P.W.B. (2)

Voltage
TAPE 1, TAPE 2: Normal
TAPE 1, TAPE 2: STOP
Dolby: OFF

TAPE 1, TAPE 2: Metal
TAPE 1: PLAY
Dolby: ON

HEADPHONES P.W.B.

HEADPHONES JACK

	E	C	B
Q904	0	0	0.7
Q905L, R	0	0	0.7
Q906L, R	0	0	0.6
Q907L, R	0	0	0
Q908L, R	0	0	0
Q909	0	0	0
Q910			
Q911	12.6/8.4	12.6/8.4	11.9/7.6
Q912	0	0	0.6
Q913	0	3.6	0.5/0
Q914	0	0	0/0.7
Q915	0	0	0
Q916L, R	0	0	0.7
Q917L, R	0	0	0.6/0

VOLUME BASS P.W.B.

BASS CONTROL MOTOR

R610 BASS CONTROL

MAIN P.W.B.

S001 POWER SWITCH

RIF SWITCH

CD CONTROL

VCR

TV/AUX

CD

PHONO

	E	C	B
Q303	0	0	FM 0.7 AM 0
Q304	13.7	FM 13.7 AM 0	FM 12.9 AM 13.7
Q305	0	FM 0 AM 13.7	FM 0.7 AM 0
D307			
Q401	0	0	0.7
Q555	0	0	0.7
Q554	0	0	0.7
Q555	0	0.7	
Q601	0	0	BTL 0.7 3D 0
Q602	0	0	BTL 0.7 3D 0
Q701L, R	0	0	BTL 0.7 3D 0
Q801	13.7	26.5	14.2
Q802	14.2	26.2	14.8
Q803	13.6	26.5	14.2
Q805	−14.4	−28.4	−15.0
Q806	13.6	13.6	12.9
Q807	0	0	0.6
Q809	12.3	12.2	11.5
Q811	12.7	12.7	12.0
Q812	−28.0	−35.3	−28.6
Q813	0	0	0.7
Q814	0	4.3	0
Q816	0	0.1	0.7
Q901L, R	0	0	0
Q902	0	0	0.7
Q903L, R	0	0	0.6

Pin No.	IC901	Pin No.	IC901
1 ~ 4	0	11	0.7/1.9
5, 6	0.6	12	7.7/7.0
7	0/2.3	13, 14	3.2/2.9
8	0	15~17	0
9	0/1.7	18	0/1.2
10	7.3/6.7		

Pin No.	IC903	Pin No.	IC402
1	6.4	10	0.4
2	12.4/12.5	11	6.4
3, 4	6.4	12	13.0/13.5
5	5.6/0	13	1.2
6	6.4	14	6.4
7	0.4	15	0
8.9	6.4	16	6.4

Pin No.	IC905	Pin No.	IC905
1 ~ 3	11.3/10.7	6	11.1/10.5
4	11.1/10.5	7, 8	0
5	0	9	12.7/12.0

VOLUME MAIN P.W.B.

MAIN VOLUME CONTROL MOTOR

R601 MAIN VOLUME CONTROL

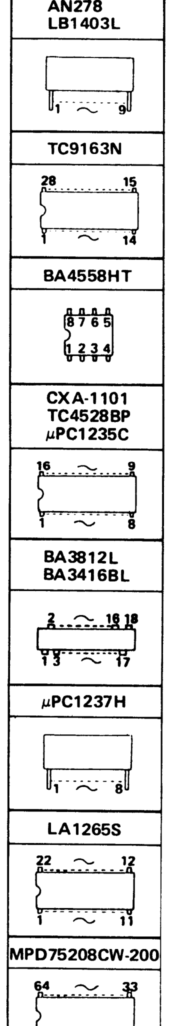
R412 BALANCE CONTROL

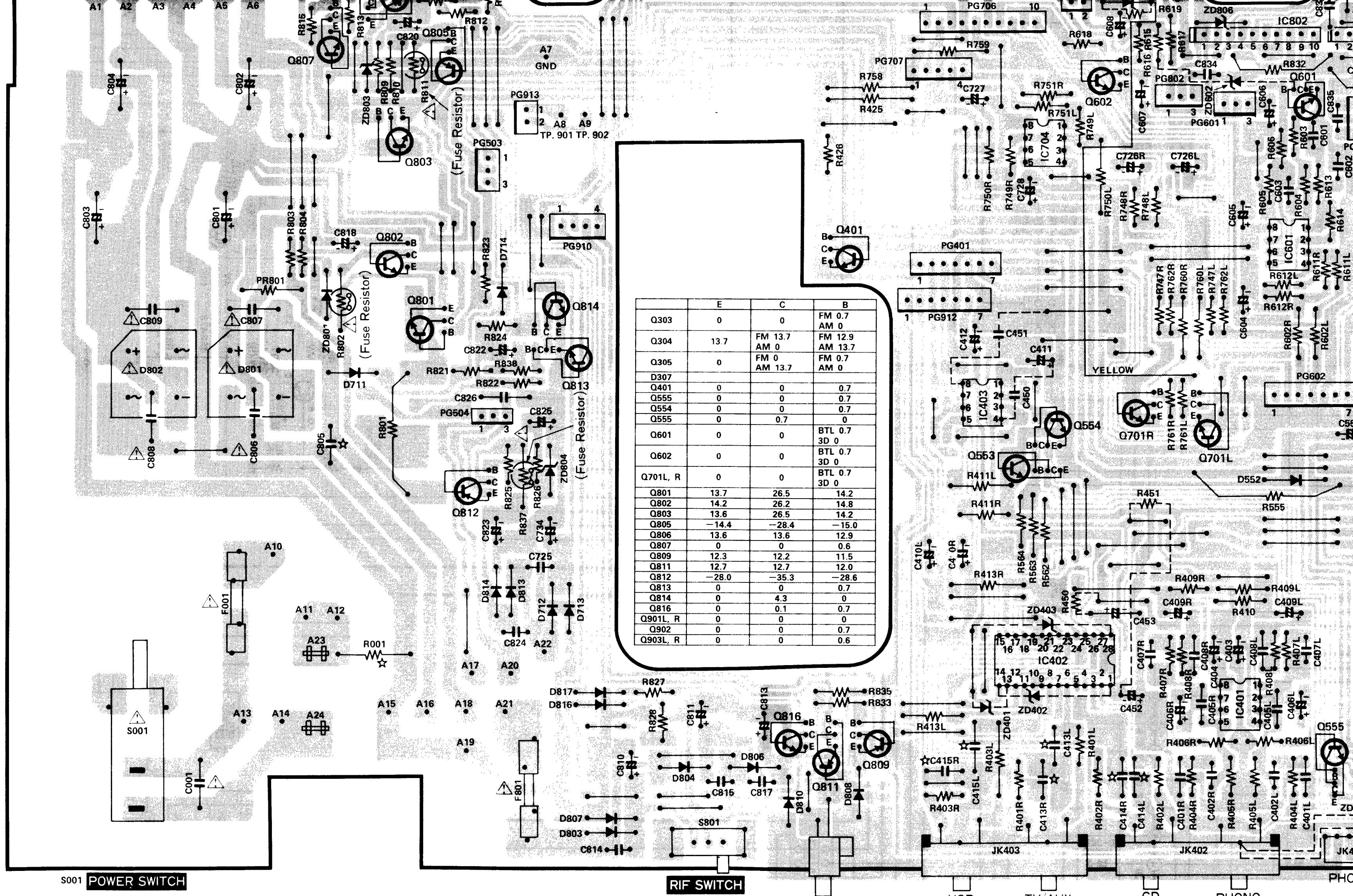
TUNER P.W.B.

RT301 FM MPX ADJ.

AMP. P.W.B.

LC7218	24 ~ 13 / 1 ~ 12
STK-4142II	1 ~ 18
BA6209N	1 ~ 10
AN278 LB1403L	1 ~ 9
TC9163N	28 ~ 15 / 1 ~ 14
BA4558HT	8 7 6 5 / 1 2 3 4
CXA-1101 TC4528BP μPC1235C	16 ~ 9 / 1 ~ 8
BA3812L BA3416BL	2 ~ 16 18 / 1 3 ~ 17
μPC1237H	1 ~ 8
LA1265S	22 ~ 12 / 1 ~ 11
MPD75208CW-200	64 ~ 33 / 1 ~ 32



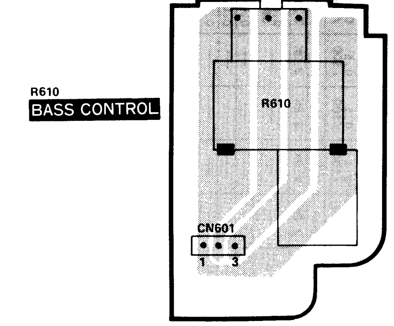


	E	C	B
Q303	0	0	FM 0.7 AM 0
Q304	13.7	FM 13.7 AM 0	FM 12.9 AM 13.7
Q305	0	FM 0 AM 13.7	FM 0.7 AM 0
D307			
Q401	0	0	0.7
Q555	0	0	0.7
Q554	0	0	0.7
Q555	0	0.7	0
Q601	0	0	BTL 0.7 3D 0
Q602	0	0	BTL 0.7 3D 0
Q701L, R	0	0	BTL 0.7 3D 0
Q801	13.7	26.5	14.2
Q802	14.2	26.2	14.8
Q803	13.6	26.5	14.2
Q805	−14.4	−28.4	−15.0
Q806	13.6	13.6	12.9
Q807	0	0	0.6
Q809	12.3	12.2	11.5
Q811	12.7	12.7	12.0
Q812	−28.0	−35.3	−28.6
Q813	0	0	0.7
Q814	0	4.3	0
Q816	0	0.1	0.7
Q901L, R	0	0	0
Q902	0	0	0.7
Q903L, R	0	0	0.6

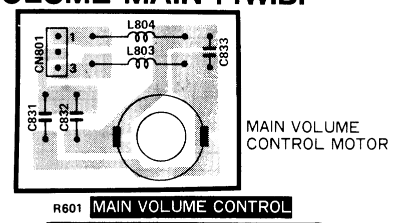
Pin No.	IC901	Pin No.	IC901
1 ~ 4	0	11	0.7/1.9
5, 6	0.6	12	7.7/7.0
7	0/2.3	13, 14	3.2/2.9
8	0	15~17	0
9	0/1.7	18	0/1.2
10	7.3/6.7		

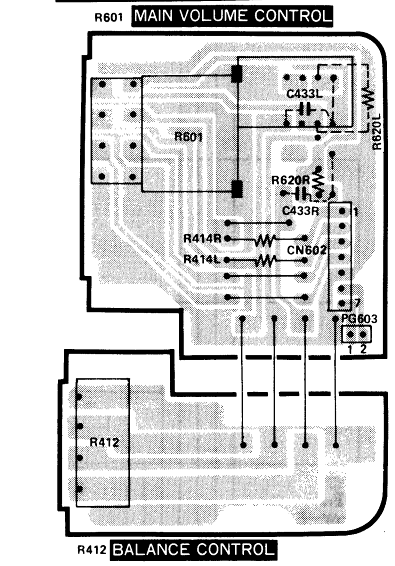
Pin No.	IC903	Pin No.	IC402
1	6.4	10	0.4
2	12.4/12.5	11	6.4
3, 4	6.4	12	13.0/13.5
5	5.6/0	13	1.2
6	6.4	14	6.4
7	0.4	15	0
8.9	6.4	16	6.4

Pin No.	IC905	Pin No.	IC905
1 ~ 3	11.3/10.7	6	11.1/10.5
4	11.1/10.5	7, 8	0
5	0	9	12.7/12.0



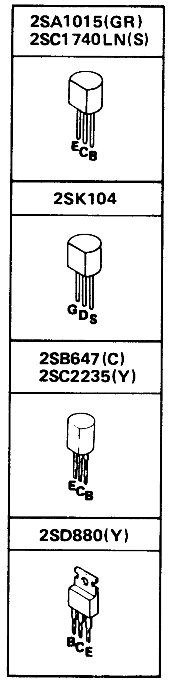
VOLUME MAIN P.W.B.



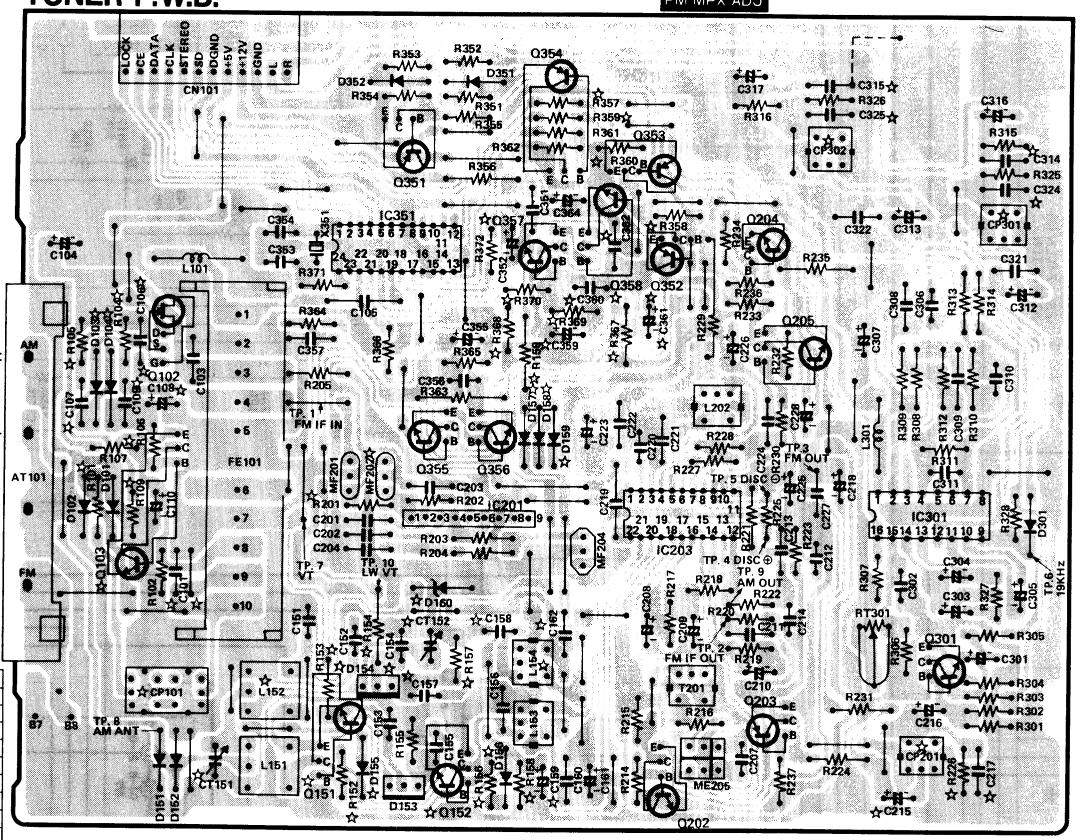


...I DE BASE

The circuit symbol (☆) means difference for destination. (Refer to the table in page 16.)
Das Schaltkreissymbol (☆) weist auf unterschiedliche Zielrichtungen hin. (Siehe die Tabelle auf Seite 16.)
Le symbol de circuit (☆) signifie qu'il s'agit des différence pour distination. (Consulter la table dans le page 16.)



TUNER P.W.B.

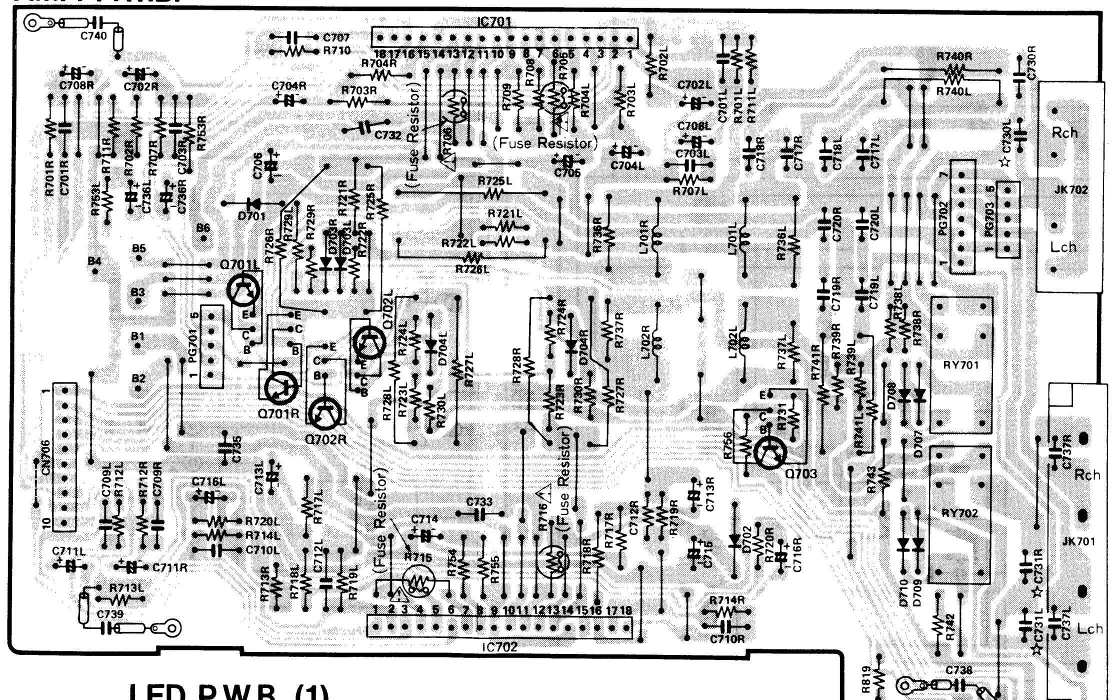


☆	LW	Other
L151	USE	—
L152	USE	—
D155	USE	—
D156	USE	—
D157	USE	—
D158	USE	—
D159	USE	—
D160	USE	—
Q151	USE	—
Q152	USE	—
Q352	USE	—
Q353	USE	—
Q357	USE	—
Q358	USE	—
R152	USE	—
R154	USE	—
R156	USE	—
R157	USE	—

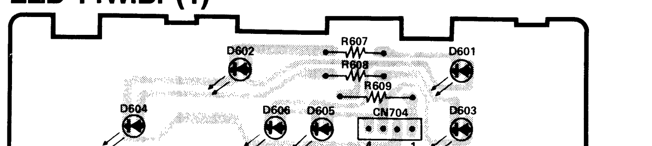
1S2473
1K60R
11E2
HZ-3(A)
HZ-3(B3)
HZ-5(C3)
HZ-6(B)
HZ-9(C1)
HZ-9(C)

Note 1 : The SUB P.W.B. shall be deleted from products No. 13,000 and up.
Note 2 : IC501 MPD75208CW-200 shall be changed to MPD 75208CW-227 in products No. 13,000 and up.
Note 3 : Connector CN582 shall be changed to CN504 in products No. 13,000 and up.

AMP. P.W.B.



LED P.W.B. (1)



FRONT P.W.B.

	D	G	S
Q102			

	E	C	B
Q103			
Q151			
Q152			
Q202	FM 10.5 AM 10.8	FM 0 AM 10.8	FM 13.5 AM 10.1
Q203	0	0	FM 0.6 AM 0
Q204	0.1	FM 12.1 AM 12.8	0.1
Q205	0.1	0.1	0.8
Q301	2.2	FM 6.4 AM 6.5	2.8
Q351	13.7	FM 0 AM 13.7	FM 13.7 AM 13.0
Q352	13.7		
Q353	13.7		
Q354	13.7	FM 13.6 AM 0	FM 12.9 AM 13.7
Q355	0.6	FM 2.4 AM 1.2	1.1
Q356	0	FM 2.4 AM 1.2	0.6
Q357			
Q358	0		
Q501	0	0	0.6
Q502	0	5.5	0
Q503	5.6	−27.1	5.6
Q504	0	0	0.7
Q551	0	0	0.6
Q552	0	4.8	0
Q701L, R			
Q702L, R			
Q703			
Q704	0.8	0.9	1.6
Q808	0	0	0.7

☆	ZS	VS	VC	Other
C215	USE	USE	—	—

ifference for destination. (Refer to the table in page 16.)
auf unterschiedliche Zielrichtungen hin. (Siehe die Tabelle auf Seite 16.)
qu'il s'agit des différence pour distination. (Consulter la table dans le page 16.)

E F G H I

R412 BALANCE CONTROL

PHONO
PHONO
CD
TV/AUX
VCR

S001 POWER SWITCH

RIF SWITCH

CD CONTROL

	D	G	S
Q102			

	E	C	B
Q103			
Q152			
Q202	FM 10.5 AM 10.8	FM 0 AM 10.8	FM 13.5 AM 10.1
Q203	0	0	AM 4.6 AM 0
Q204	0.1	FM 12.1 AM 12.8	0.1 0.8
Q205	0.1	FM 6.4 AM 6.5	2.8 2.8
Q301	2.2	FM 13.7 AM 13.7	FM 13.7 AM 13.0
Q352	13.7		
Q353	13.7		
Q354	13.7	FM 13.6 AM 0	FM 12.5 AM 13.7
Q355	0.6	FM 2.4 AM 1.2	1.1 0.6
Q356	0	FM 2.0 AM 1.2	
Q357			
Q358	0	0	0.6
Q501	0	5.5	0
Q502	0	-27.1	5.6
Q503	5.6	0	0.6
Q504	0	0	0
Q551	0	4.8	0
Q552			
Q701L, R			
Q702L, R			
Q703			
Q704	0.8	0.9	1.6
Q808	0	0	0.7

Pin No.	IC201
1	FM 0.2 AM 0
2	FM 3.5 AM 0
3	FM 0.1 AM 0
4	FM 3.9 AM 0
5	FM 6.1 AM 0
6	FM 3.8 AM 0
7	FM 3.0 AM 3.9
8	FM 3.3 AM0
9	

Pin No.	FE101
1, 2	0
3	FM 13.5 AM 0
4, 5	FM 0 AM 0
6	FM 2.4 AM 1.2
7	FM 3.9 AM 0
8, 9	FM 2.2 AM 0
10	0

Pin No.	IC203
12	1.5
13, 14	FM 0.2 AM 0
15	FM 2.2 AM 1.1
16	FM 1.4 AM 1.5
17	FM 10.8 AM 10.8
18, 19	FM 0 AM 2.0
20, 21	FM 3.8 AM 3.5
22	FM 2.7 AM 1.5

Pin No.	IC203
1 ~ 3	FM 2.3 AM 1.1
4	0
5	FM 9.9 AM 10.8
6	FM 10.4 AM 10.8
7	FM 10.6 AM 10.8
8	FM 5.7 AM 5.8
9	FM 3.5 AM 3.5
10	FM 3.0 AM 3.0
11	1.4

Pin No.	IC301
1	13.7
2	2.4
3	FM 5.4 AM 5.3
4, 5	FM 11.6 AM 11.7
6, 7	8.6
8	0

Pin No.	IC301
9	12.0
10, 11	2.4
12	FM 0 AM 2.4
13, 14	2.4
15	FM 0.2 AM 0
16	FM 4.5 AM 12.3

Pin No.	IC351
1	FM 0.1 AM 2.7
2 ~ 8	FM 0 AM 0
9	FM 13.7 AM 0.3
10	FM 27 AM 0
11	FM 5.4 AM 5.6
12	0
13	0.1
14	FM 0.1 AM 0
15, 16	

Pin No.	IC351
17	FM 2.7 AM 0
18	FM 0 AM 2.8
19	FM 27 AM 0
20	FM 5.4 AM 5.6
21	0
22	1.1
23	0
24	FM 2.6 AM 2.7

	ZS	VS	VC	Other
☆				
C215	USE	USE		
C217	USE	USE		
C224,225		USE		
R226	USE	USE		
CP201		USE		
CP301	USE	USE		
CP302		USE		

	ZS	UC	Other
☆			
J6	USE		

	VC	Other
☆		
D516		USE
D517	USE	

SPEAKERS TERMINAL (SUPER BASS)

SPEAKERS TERMINAL

GRAPHIC EQUALIZER P.W.B.

R416 60Hz
R417 250Hz
R418 1KHz
R419 4 KHz
R420 16KHz

R416 - R420 GRAPHIC EQUALIZER CONTROL

AMP. P.W.B.

LED P.W.B. (1)

IR MODULE

CH 1
CH 2
CH 3
CH 4
CH 5
CH 6
CH 7
CH 8
CH 9
CH10
+10

A/M
MEMO
UP
DOWN

FL METER

SUB P.W.B.

TAPE
VTR
TV/AUX
CD
PHONO
TUNER

TUNER P.W.B.

RT301
FM MPX ADJ

AM EXT
AM LOOP
FM 75Ω

Note 1 : The SUB P.W.B. shall be deleted from products No. 13.000 and up.
Note 2 : IC501 MPD75208CW-200 shall be changed to MPD 75208CW-227 in products No. 13.000 and up.
Note 3 : Connector CN502 shall be changed to CN504 in products No. 13.000 and up.

FRONT P.W.B.

	LW	Other
☆		
L151	USE	
L152	USE	
D155	USE	
D156	USE	
D157	USE	
D158	USE	
D159	USE	
D160	USE	
Q151	USE	
Q152	USE	
Q352	USE	
Q353	USE	
Q357	USE	
Q358	USE	
R152	USE	
R154	USE	
R156	USE	
R157	USE	
R158	USE	
R159	USE	

	LW	Other
☆		
R353	USE	
R358	USE	
R359	USE	
R360	USE	
R367	USE	
R368	USE	
R369	USE	
R370	USE	
CT152	USE	
C152	USE	
C154	USE	
C157	USE	
C158	USE	
C159	USE	
C162	USE	
C359	USE	
C360	USE	
C361	USE	
C362	USE	

	ZS	Other
☆		
Q102	USE	
Q103	USE	
D103	USE	
D104	USE	
R101	USE	
R104	USE	
R105	USE	
R106	USE	
R109	USE	
R201	USE	
C101	USE	
C106	USE	
C107	USE	
C108	USE	
C109	USE	
C314	USE	
C315	USE	
MF202	USE	

Voltage
For CD/except CD

Pin No.	IC581
1	5.6
2	0
3	4.8/0
4	0
5	5.6
6	5.6
7	0
8	5.6
9	0
10	5.6
11	4.7
12	0
13	4.0
14	0
15	5.6
16	0

	E	C	B
Q581	0	0	0
Q582	0	0	0
Q583	0	0	0
Q584	0	0	0
Q585	0	0.1	0.7
Q586	5.6	5.9/-24.3	4.9/16
Q587	0	5.9/0.7	0.7/0

	E	C	B
Q588	0	0/5.6	0.7/0
Q589	0	3.6	0
Q590	13	0	13
Q591	0	3.3/0	0.07
Q592	-0.8/-22.0	-24.0/-22.0	5.4/-21.0
Q593	-22.0/-0.8	-24.0/-22.0	5.4/-21.0

Pin No.	IC501	Pin No.	IC501	Pin No.	IC501
1 ~ 4	0	17~29	0	52	4.2
5	4.3	30, 31	2.4	53	4.2
6~8	0	32, 33	0	54	4.2
9	5.5	34	4.8	55	0
10	4.9	35	0.2	56	-28.0
11~13	0	36~39	4.8	57	-3.5
14	4.7	40~49		58~63	
15, 16	4.8	50, 51	0	64	4.8

Pin No.	IC703
1 ~ 3	0
4	2.8
5	0
6	0.8
7	2.2
8	3.4

Pin No.	IC702	Pin No.	IC701
1, 2	-0.2	10	0
3	-25.8	11	28.6
4	-1.3	12	0
5	0	13	-29.3
6	0	14	-1.3
7	-27.6	15	0
8	-28.1	16	-0.2
9	-29.3	17, 18	

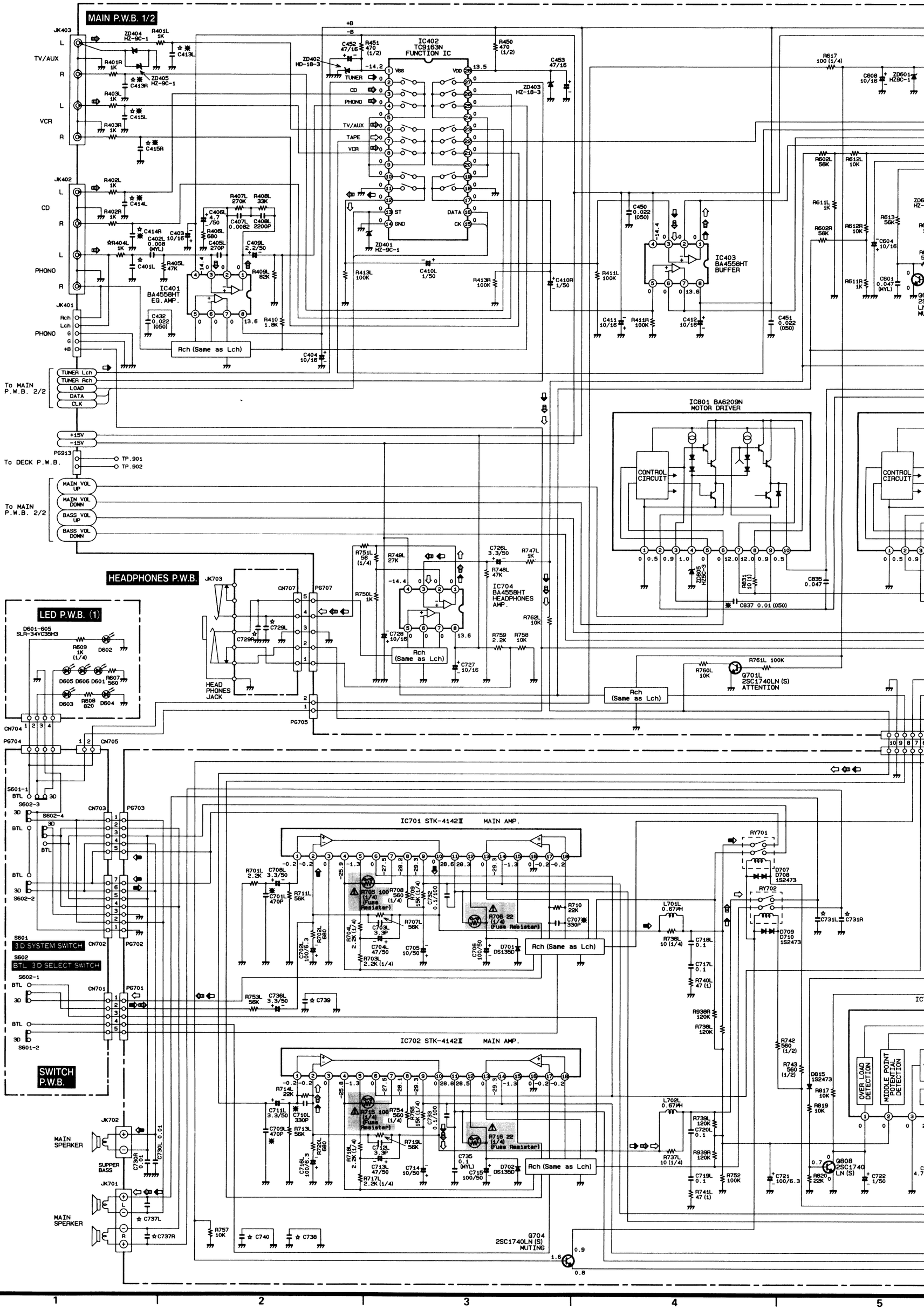
Pin No.	IC701	Pin No.	IC701
1, 2	-0.2	10	0
3	-25.8	11	28.6
4	-1.3	12	0
5	-29.3	13	-29.3
6	0	14	-1.3
7	-27.6	15	0
8	-28.1	16	-0.2
9	-29.3	17, 18	

2SA1015(GR) 2SC1740LN(S)	
2SK104	
2SB647(C) 2SC2235(Y)	
2SD880(Y)	

1S2473 1K60R 11E2 HZ-3(A) HZ-3(B3) HZ-5(C3) HZ-6(B) HZ-9(C1) HZ-9(C) HZ-12(A3) RD27E(B4)	
DS135D(F) KV1260	
S4VB20	

CIRCUIT DIAGRAM · SCHALTPLAN · PLAN DE CIRCUIT

※ : Axial lead cylindrical ceramic capacitor.
※ : Zalindrischer Keramikkondensator mit axialer Zuleitung.
※ : Condensateur céramique clindrique à conducteur axial.



※ : Axial lead cylindrical ceramic capacitor.
※ : Zalindrischer Keramikkondensator mit axialer Zuleitung.
※ : Condensateur céramique clindrique à conducteur axial.

☆	CS	VS, KS BS	ES
C401LR	150P	150P	150P
C413LR	—	—	—
C414LR	—	—	—
C415LR	—	—	—
C729LR	—	—	—
C731LR	—	—	—
C805	—	0.1 /100	0.1 /100
R001	2.7M	—	—
R404LR	2.2K	2.2K	2.2K
C737LR	—	—	—
C738	—	—	—
C739	—	—	—
C740	—	—	—

IC402 TC9163N FUNCTION IC
IC403 BA4558HT BUFFER
IC601 BA4558HT BASS AMP.
Q401 2SC1740LN (S) SWITCHING
Q602 2SC1740LN (S) MUTE
Q601 2SC1740 LN (S) MUTE
IC801 BA6209N MOTOR DRIVER
IC802 BA6209N MOTOR DRIVER
IC704 BA4558HT HEADPHONES AMP.
Q701L 2SC1740LN (S) ATTENTION
IC701 STK-4142II MAIN AMP.
IC702 STK-4142II MAIN AMP.
IC703 μPC1237H PROTECTOR
Q704 2SC1740LN (S) MUTING
Q808 2SC1740 LN (S)
Q814 2SC1740 LN (S) AC OFF DETECTOR
Q813 2SC1740LN (S) AC OFF DETECTOR
Q801 2SD880 (Y) STAB.
Q802 2SC1740LN (S) STAB.
Q803 2SD880 (Y) STAB.
Q806 2SA1015 (GR) MUTING
Q807 2SC1740 LN (S) MUTING
Q805 2SB647 (C) STAB.

CONTROL CIRCUIT
FLIP-FLOP CIRCUIT
LATCH /AUTOMATIC RESET SELECTION
AC OFF DETECTION
RELAY DRIVE
Vcc ON MUTE
OVER LOAD DETECTION
MIDDLE POINT POTENTIAL DETECTION

Rch (Same as Lch)

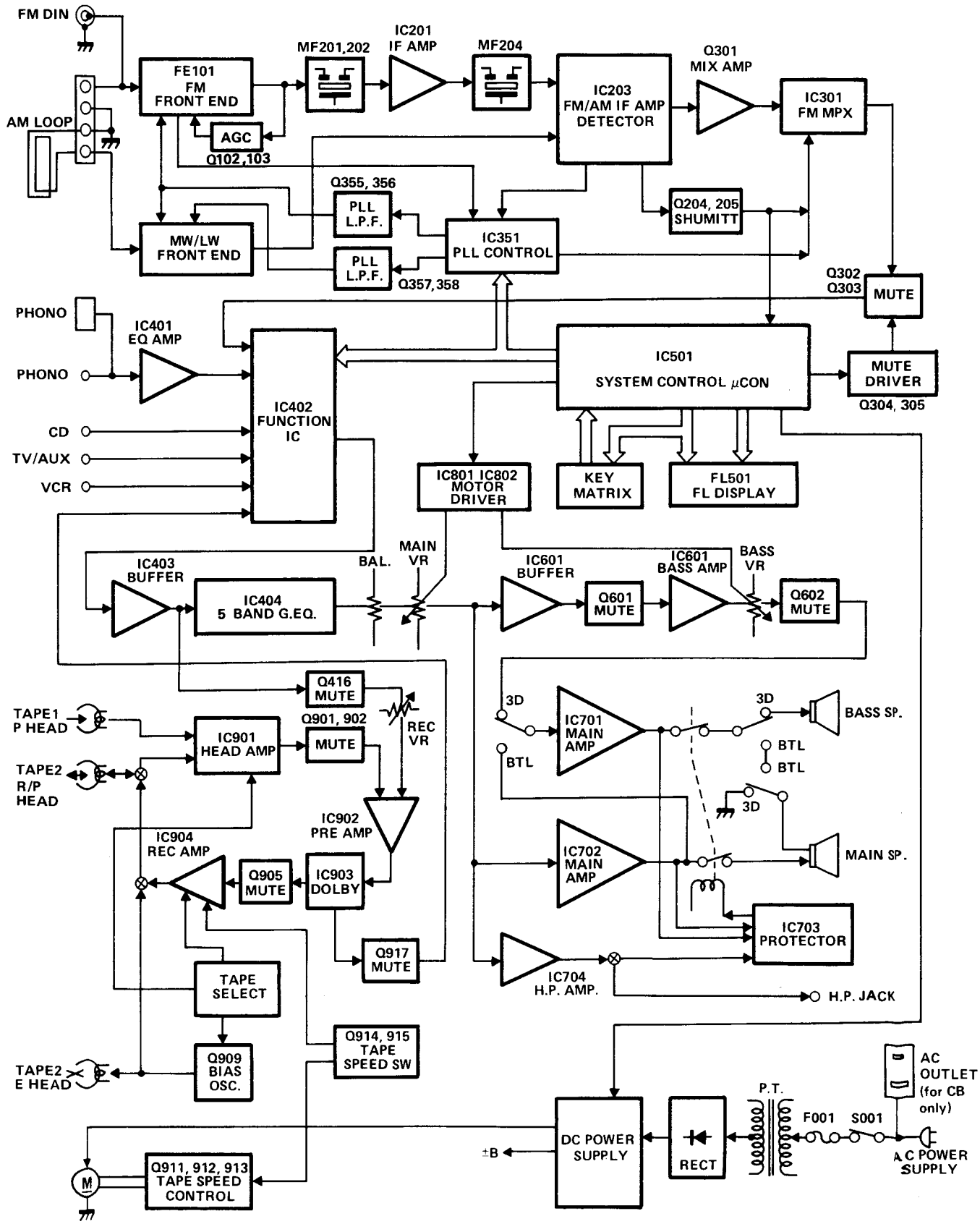
P9912 — To DECK P.W.B.
PG401 — VOL IND — To MAIN P.W.B. 2/2
PG602 / CN602 — BALANCE CONTROL
PG801 / CN801
PG601 / CN601 — BASS CONTROL
PG802 / CN802
PG706 / CN706 — AMP P.W.B.
A7 A6 A5 A4 A3 A2 A1 / B6 B5 B4 B3 B2 B1 — To FRONT P.W.B.

3 4 5 6 7

※	EW		CS	other
	120V	220V/240V	4A	T1.6A
F001	T3.15A	T1.6A		

※	CS	VS, KS BS	ES	SA	EW	ZS
C40LR	150P	150P	150P	150P	150P	330P
C41LR	150P	—	—	—	—	100P
C44LR	—	—	—	—	—	100P
C45LR	—	—	—	—	—	100P
C28LR	—	—	—	—	—	0.01
C73LR	—	—	—	—	—	0.01
R001	2.7M	—	—	—	—	—
C805	—	0.1 /100	0.1 /100	0.1 /100	0.1 /100	0.1 /100
R40LR	2.2K	2.2K	2.2K	2.2K	3.3K	—
C73LR	—	—	—	—	—	0.022 (MYL)
C738	—	—	—	—	—	0.022
C739	—	—	—	—	—	0.022
C740	—	—	—	—	—	0.022

BLOCK DIAGRAM · BLOCKSCHEMA · SCHÉMA



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